CDX-605

SERVICE MANUAL

US Model

Model Name Using Similar Mechanism	CDX-505RF
CD Drive Mechanism Type	MG-250C-137
Optical Pick-up Name	KSS-521A/J2N

SPECIFICATIONS

System	Compact disc digital audio system
Frequency response	10 – 20,000 Hz
Wow and flutter	Below the measurable limit
Signal-to-noise ratio	94 dB
Outputs	BUS control output (8 pins) Analog audio output (RCA pin)
Current drain	800 mA (during CD playback) 800 mA (during loading or ejecting a disc)
Operating temperature	– 10 °C to + 55 °C (14 °F to 131 °F)
Dimensions	Approx. 262 × 90 × 181.5 mm ($10^3/_8 \times 3^5/_8 \times 7^1/_4$ in.) (w/h/d) not incl. projecting parts and controls
Mass	Approx. 2.1 kg (4 lb 10 oz)
Power requirement	12 V DC car battery (negative ground)
Supplied accessories	Disc magazine (1) Parts for installation and connections (1 set)

Design and specifications subject to change without notice.

COMPACT DISC CHANGER

MICROFILM

SONY®

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

Laser Diode Properites
- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output Power: less than 44.6 µW*

  * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Flexible Circuit Board Repairing
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

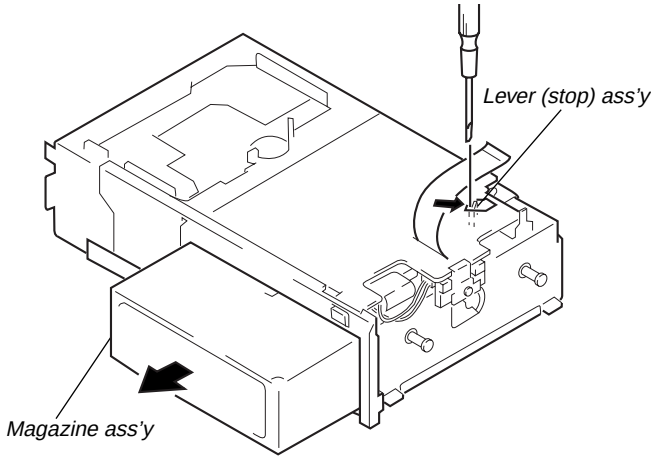
Notes on chip component replacement
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

DISC MAGAZINE GETTING OUT PROCEDURE ON THE POWER SUPPLY IS OFF

Remove the CASE (LOWER) assembly beforehand

1) Press the lever (stop) assy to arrow direction.
2) Removal the magazine assy.

Note: Take out the magazine only when the tray is completely within the magazine. If the disk or tray is sticking out, turn on the power and eject the magazine.



SECTION 2
GENERAL

This section is extracted from instruction manual.

Installation

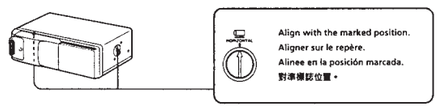
Precautions

- Choose the mounting location carefully, observing the following:
  - The unit is not subject to temperatures exceeding 55°C (131°F) (such as in a car parked in direct sunlight).
  - The unit is not subject to direct sunlight.
  - The unit is not near heat sources (such as heaters).
  - The unit is not exposed to rain or moisture.
  - The unit is not exposed to excessive dust or dirt.
  - The unit is not subject to excessive vibration.
  - The fuel tank should not be damaged by the tapping screws.
  - There should be no wire harnesses or pipes under the place where you are going to install the unit.
  - The spare tire, tools or other equipment in or under the trunk should not be interfered with or damaged by the screws or the unit itself.
- Be sure to use only the supplied mounting hardware for a safe and secure installation.
- Use only the supplied screws.

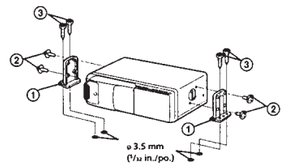
How to install the unit

Horizontal installation

1

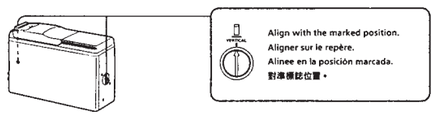


2

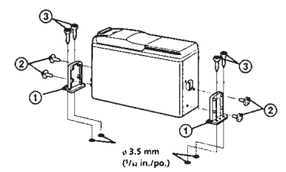


Vertical installation

1



2



Suspended installation

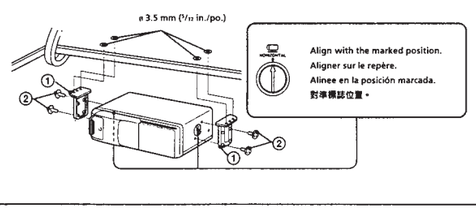
When the unit is to be installed under the rear tray etc. in the trunk compartment, make sure the following provisions are made.

- Choose the mounting location carefully so the unit can be installed horizontally.
- Make sure the unit does not hinder the movement of the torsion bar spring etc. of the trunk lid.

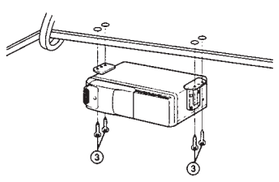
Inclined installation

After installing the unit, align the dials with one of the marks so the arrows are as vertical as possible.

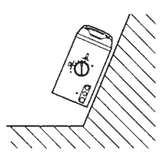
1



2



Note
Be sure to align the left and right dials with the same mark.



Installation

Précautions

- Choisir l'emplacement de montage en tenant compte des observations suivantes:
  - Appareil non soumis à des températures dépassant 55°C (131°F) (comme dans une voiture parquée au soleil).
  - Appareil non soumis au rayonnement solaire direct.
  - Appareil à l'écart de sources de chaleur (comme des radiateurs).
  - Appareil non exposé à la pluie ou à l'humidité.
  - Appareil non exposé à des poussières ou à des souillures en excès.
  - Appareil non exposé à des vibrations excessives.
  - Vérifier que le réservoir d'essence ne risque pas d'être endommagé par les vis taraudeuses.
  - Il ne doit pas y avoir de faisceau de fils ou de tuyaux à l'emplacement du montage.
  - Vérifier que l'appareil ou les vis ne risquent pas d'endommager ou de gêner la roue de secours, les outils, ou autre objet dans le coffre.
- Pour garantir la sécurité de l'installation, utiliser uniquement le matériel de montage fourni.
- Utilisez uniquement les vis fournies.

Installation de l'appareil

Installation horizontale

Installation verticale

Installation suspendue

Si l'appareil doit être installé sous la plage arrière dans le coffre, par exemple, observer les précautions suivantes:

- Bien choisir l'emplacement pour pouvoir installer l'appareil à l'horizontale.
- Vérifier que l'appareil ne gêne pas les mouvements du ressort de fermeture du coffre, entre autres.

Installation inclinée

Après avoir installé l'appareil, alignez les disques sur un repère de façon à ce que les flèches soient dans la position la plus verticale possible.

Remarque
Veillez à aligner les disques gauche et droite sur le même repère.

Instalación

Precauciones

- Elija cuidadosamente el lugar de montaje y tenga en cuenta lo siguiente:
  - La unidad no queda sometida a temperaturas superiores a los 55°C (como en un automóvil aparcado a la luz solar directa).
  - La unidad no queda sometida a la luz solar directa.
  - La unidad no queda cercana a fuentes térmicas (como aparatos de calefacción).
  - La unidad no queda expuesta a la lluvia o a la humedad.
  - La unidad no queda expuesta a polvo o suciedad excesivos.
  - La unidad no queda sometida a vibraciones excesivas.
  - El depósito de combustible no deberá dañarse con los tornillos autorroscantes.
  - No deberá haber mazos de conductores ni tubos debajo del lugar donde vaya a instalar la unidad.
  - La rueda de repuesto, las herramientas, u otros equipos situados dentro o debajo del portaequipajes no deberán verse interferidos ni dañados por los tornillos ni por la propia unidad.
- Para realizar una instalación segura, emplee solamente la ferretería de montaje suministrada.
- Utilice sólo los tornillos suministrados.

Instalación de la unidad

Instalación horizontal

Instalación vertical

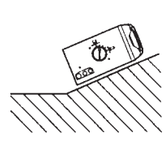
Instalación suspendida

Si va a instalar la unidad debajo de la bandeja trasera, etc., del maletero, tenga en cuenta lo siguiente:

- Elija el lugar de montaje cuidadosamente de forma que sea posible instalar la unidad horizontalmente.
- Asegúrese de que la unidad no dificulta el movimiento del muelle de la barra de torsión, etc., de la tapa del maletero.

Instalación inclinada

Una vez instalada la unidad, alinee los diales de forma que una de las marcas de las flechas se encuentre en la posición más vertical posible.



Nota
Asegúrese de alinear los diales izquierdo y derecho con la misma marca.

安裝

使用前須注意

- 請參照下列各項仔細選擇安裝位置：
  - 機器不能遭受超過 55℃ 的溫度 (例如停駐於炎陽下的汽車內)。
  - 機器不可直接照射到陽光。
  - 機器不可靠近熱源 (例如加熱器等)。
  - 不要讓機器露由中或潮濕處。
  - 別讓機器受到強烈的震動。
  - 不要把機器放在多塵或污穢的地方。
  - 小心別讓攻絲螺釘損傷了燃油箱。
  - 注意安裝機器位置下面不要有電線束或配管。
  - 行李箱中或下面的備胎，工具或其他設備的取存是否不會受到機器的安裝螺釘或機器本身的干擾或損傷。
- 為了安裝確實和安全，請限使用附帶的安裝五金件。
- 限使用附帶的螺絲釘。

如何安裝機器

水平安裝

豎直安裝

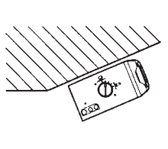
懸掛安裝

機器安裝在後行李箱托架下面等位置時，必須作好如下的準備。

- 小心地選擇能水平地安裝機器的位置。
- 確認機器是否不會阻撓後行李箱蓋的扭桿彈簧等。

傾斜安裝

安裝好機器之後，請旋轉度盤對準標誌中的一個使箭頭盡可能呈垂直方向的位置。

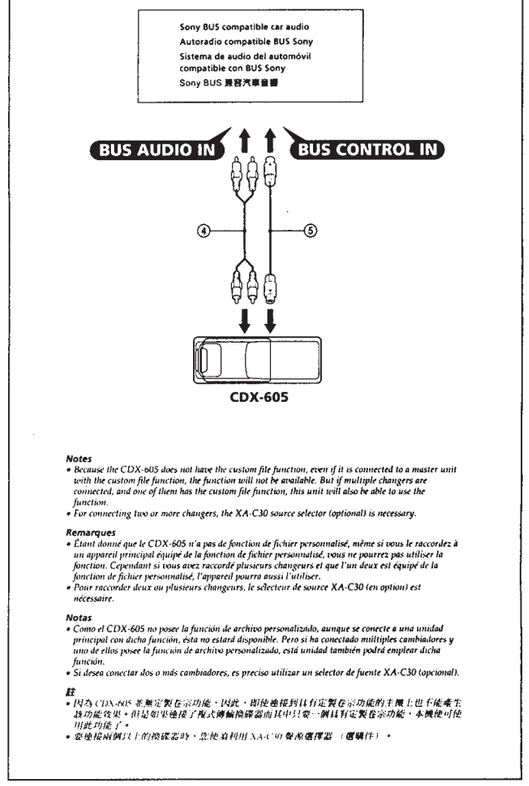


註
左、右度盤一定都要對準同一標誌。

Connections/Connexions/ Conexiones/ 連接

For details, refer to the installation/connections manual of the car audio.
Pour plus de détails, consulter le manuel d'installation/connexions de l'autoradio.
Con respecto a los detalles, consulte el manual de instalación/conexiones del sistema de audio del automóvil.
詳細請參考各產品的安裝／連接說明。

Connection diagram/Schéma de connexions/Diagrama de conexión/ 接線圖


Sony BUS compatible car audio
Autoradio compatible BUS Sony
Sistema de audio del automóvil compatible con BUS Sony
Sony BUS 兼容汽車音響
BUS AUDIO IN
BUS CONTROL IN
CDX-605

Notes

- *Because the CDX-605 does not have the custom file function, even if it is connected to a master unit with the custom file function, the function will not be available. But if multiple changers are connected, and one of them has the custom file function, this unit will also be able to use the function.*
- *For connecting two or more changers, the XA-C30 source selector (optional) is necessary.*

Remarques

- *Etant donné que le CDX-605 n'a pas de fonction de fichier personnalisé, même si vous le raccordez à un appareil principal équipé de la fonction de fichier personnalisé, vous ne pourrez pas utiliser la fonction. Cependant si vous avez raccordé plusieurs changeurs et que l'un deux est équipé de la fonction de fichier personnalisé, l'appareil pourra aussi l'utiliser.*
- *Pour raccorder deux ou plusieurs changeurs, le sélecteur de source XA-C30 (en option) est nécessaire.*

Notas

- *Como el CDX-605 no posee la función de archivo personalizado, aunque se conecte a una unidad principal con dicha función, ésta no estará disponible. Pero si ha conectado múltiples cambiadores y uno de ellos posee la función de archivo personalizado, esta unidad también podrá emplear dicha función.*
- *Si desea conectar dos o más cambiadores, es preciso utilizar un selector de fuente XA-C30 (opcional).*

註

- *因為 CDX-605 並無定製卷宗功能，因此，即使連接到具有定製卷宗功能的主機上也不能產生該功能效果。但是如果連接了程式轉換換器而其中只要一個具有定製卷宗功能，本機便可使用此功能了。*
- *要連接兩個以上的換碟器時，需使用 XA-C30 聲源選擇器（選購件）。*

Precautions

Moisture condensation

On a rainy day or in a very damp area, moisture may condense on the lenses inside the unit. Should this occur, the unit will not operate properly. In this case, **remove the disc magazine and wait for about an hour until the moisture has evaporated.**

Précautions

Remarque sur la condensation d'humidité

Par temps pluvieux ou dans des régions très humides, de la condensation peut se former sur les lentilles à l'intérieur de l'appareil. Dans ce cas, l'appareil ne fonctionne pas correctement. **Retirez alors le chargeur de disques et attendez environ une heure jusqu'à ce que la condensation se soit évaporée.**

Precauciones

Condensación de humedad

En los días lluviosos o en zonas muy húmedas, puede condensarse humedad en las lentes del interior de la unidad. Si esto ocurre, ésta no funcionará correctamente. En este caso, **extraiga el cargador de discos y espere durante una hora aproximadamente hasta que la humedad se evapore.**

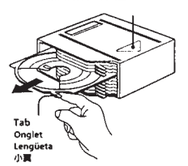
使用前須注意

濕氣冷凝

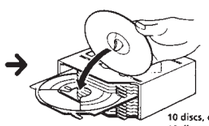
雨天或在潮濕的地方，機器內部的透鏡上面可能發生濕氣冷凝。透鏡上有冷凝水分時，機器將不能正常地作用。此時，**請取出唱碟匣，等候大約一個小時讓冷凝水分完全蒸發乾燥。**

Inserting a disc

1 With the arrow side facing up
Avec la partie fléchée tournée vers le haut
Con el lado de la flecha hacia arriba
有箭頭標誌的一面朝上



Labeled surface up
Etiquette vers le haut
Con la superficie de la etiqueta hacia arriba
貼標籤面朝上



10 discs, one in each tray
10 disques, un par plateau
10 discos, uno en cada bandeja
有 10 張唱碟，每一托盤裝一張

Use the supplied disc magazine or the disc magazine XA-250. The disc magazine XA-10B can not be used with this unit. If you use any other magazine, it may cause a malfunction.

Utilisez le magasin à disques fourni ou un magasin à disques XA-250. Vous ne pouvez pas utiliser de magasin à disques XA-10B avec cet appareil. L'utilisation d'un autre type de magasin à disques risque de provoquer un dysfonctionnement.

Emplee el cargador de discos suministrado o el XA-250. El cargador de discos XA-10B no puede utilizarse con esta unidad. Si emplea otro tipo de cargador, puede producir fallos de funcionamiento.

請使用附帶的唱碟匣或唱碟匣 XA-250。唱碟匣 XA-10B 是不能用於本機的。您如果關使用其他唱碟匣，將可能引起故障。

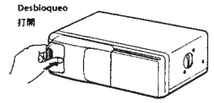
Notes
- *To listen to an 8 cm (3 1/4 in.) CD, use the separately sold Sony CD adapter CSA-8. Be sure to always use the specified adapter, as failing to do so may cause a malfunction of the unit. If you use any other adapter, the unit may not operate properly. When using the Sony CD adapter, make sure the three catches on the adapter are firmly latched onto the 8 cm (3 1/4 in.) CD.*
- *Do not insert the Sony CD adapter CSA-8 in the magazine without a disc, malfunction may result.*

Remarques
- *Pour écouter un disque de 8 cm (3 1/4 in.), utilisez l'adaptateur Sony CSA-8, vendu séparément, à l'exclusion de tout autre, pour éviter tout problème de fonctionnement. Si vous utilisez un autre adaptateur, l'appareil risque de ne pas fonctionner correctement. Quand vous utilisez l'adaptateur CD Sony, vérifiez que les trois griffes soient bien en prise sur le CD de 8 cm (3 1/4 in.).*
- *Ne pas insérer d'adaptateur CD Sony CSA-8 dans le chargeur sans disque, car cela pourrait provoquer un dysfonctionnement.*

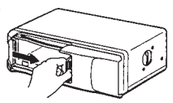
Notas
- *Para escuchar un disco compacto de 8 cm, utilice el adaptador de discos compactos Sony CSA-8, que podrá adquirir por separado. Asegúrese de utilizar siempre el adaptador especificado, ya que si utiliza otro tipo de adaptador es posible que la unidad no funcione correctamente. Al utilizar el adaptador de discos compactos Sony, asegúrese de que los tres enganches del adaptador están firmemente ajustados al disco compacto de 8 cm.*
- *No inserte el adaptador de discos compactos Sony CSA-8 en el cargador sin discos, ya que pueden producirse fallos de funcionamiento.*

註
- *要聽 8 cm (3 1/4 in.) 唱碟，請用另售品的 Sony CD 轉接器 CSA-8。一定請使用指定的轉接器，不用時可能使機器故障。如果使用任何其他轉接器，機器將可能不能作正常的操作。使用 Sony 牌 CD 轉接器時，省請認轉接器上的 3 個爪子是否牢牢固地與定好 8cm CD。*
- *不要把 Sony CD 轉接器 CSA-8 裝入沒有唱碟的唱碟匣內。*

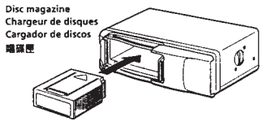
2 Unlock
Déverrouiller
Desbloqueo
打開



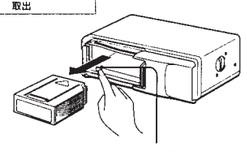
Release, and slide open.
Relâchez et coulissez pour ouvrir.
Suelte y deslice para abrir.
釋放，滑開



3 Disc magazine
Chargeur de disques
Cargador de discos
唱碟匣

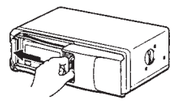


To remove
Retrait
Extracción
取出



If the disc magazine does not lock properly
Take out the magazine, and after pressing the EJECT button, reinsert it.
Si vous ne pouvez pas fermer le chargeur de disques
Sortez le chargeur et, après avoir appuyé sur la touche EJECT, réinsérez-le.
Si el cargador de discos no se cierra correctamente
Extraiga el cargador, pulse el botón EJECT y vuelva a insertarlo.
如果唱碟匣沒有鎖定安裝
請取出唱碟匣，按下 EJECT 按鈕後再將它裝進去。

4



Use the unit with the door closed
Otherwise, foreign matter may enter the unit and contaminate the lenses inside the changer.
Utiliser cet appareil avec la trappe fermée
Sinon, des corps étrangers pourraient pénétrer dans l'appareil et encrasser les lentilles dans le lecteur.
Emplee la unidad con la puerta cerrada
De lo contrario podrían objetos extraños y contaminar las lentes del interior del cambiador.
請關上門使用機器
否則，會有異物進入機器而弄髒唱碟匣內部的透鏡。

Notes on the disc magazine

- Do not leave the disc magazine in locations with high temperatures and high humidity such as on a car dashboard or in the rear window where the disc magazine will be subjected to direct sunlight.
- Do not place more than one disc at a time onto one tray, otherwise the changer and the discs may be damaged.
- Do not drop the disc magazine or subject it to a violent shock.

Remarques sur le chargeur de disques

- Ne pas laisser le chargeur de disques dans un endroit très chaud ou très humide comme sur le tableau de bord ou sur la plage arrière de la voiture où il serait en plein soleil.
- Ne pas insérer plus d'un disque à la fois sur le plateau, sinon le changeur et les disques risquent d'être endommagés.
- Ne pas laisser tomber le chargeur de disques ni le cogner.

Notas sobre el cargador de discos

- No lo deje en lugares muy húmedos o con temperaturas altas, como en el salpicadero del automóvil o en la ventanilla trasera, expuesto a la luz solar directa.
- No inserte más de un disco en una bandeja de una vez, ya que en caso contrario el cambiador y los discos pueden dañarse.
- No lo deje caer ni lo exponga a golpes violentos.

唱碟匣須知

- 不要把唱碟匣放置在高溫、高濕的地方，例如放在汽車儀錶板上或車後窗下等陽光會直接會直接射到陽光的地方。
- 一個托盤上不要同時裝放一張以上的唱碟，否則，可能會損壞換碟器和唱碟。
- 別讓唱碟匣掉落地上或受到強烈的衝擊。

When the tray comes out

Normally, the trays will not comes out of the magazine. However, if they are pulled out of the magazine, it is easy to re-insert them.

Lorsque le plateau sort

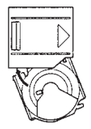
En principe, les plateaux ne sortent pas du chargeur. Toutefois, s'ils sortent du chargeur, il est facile de les réinsérer.

Si la bandeja se sale

Normalmente, las bandejas no se salen del cargador. No obstante, si esto ocurre, pueden volver a insertarse con facilidad.

脫出托盤時

通常，托盤是不會從唱碟匣中脫落的。但是萬一被從唱碟匣裡拉，您可以很簡單地再把它裝插回去的。



With the cut-away portion of the tray facing you, insert the right corner of the tray in the slot, then push in the left corner until it clicks.

Note
Do not insert the tray upside down or in the wrong direction.

Avec la portion découpée du plateau vous faisant face, insérer le coin droit du plateau dans la fente, puis enfoncer le coin gauche jusqu'au déclic.

Remarque
Ne pas insérer le plateau à l'envers ou dans le mauvais sens.

Con la parte de corte de la bandeja hacia afuera, inserte la esquina derecha de dicha bandeja en la ranura y, a continuación, ejerza presión en la esquina izquierda hasta oír un chasquido.

Nota
No inserte la bandeja al revés o en la dirección incorrecta.

讓托盤有缺口的一邊朝著自己方向將托盤右角插入槽中，然後壓入左角至聽到卡搭聲響。

註
裝插托盤時，切勿插反了或錯方向。

Notes on compact discs

This way
Oui
Así
正確

A dirty or defective disc may cause sound drop-outs during playback. To enjoy optimum sound, handle the disc as follows.

Handle the disc by its edge, and to keep the disc clean, do not touch the unlabeled surface.

Not this way
Non
Así no
不正確

Do not stick paper or tape on the disc.

Not this way
Non
Así no
不正確

Do not expose discs to direct sunlight or heat sources such as hot air-ducts. Do not leave discs in a car parked in direct sunlight where there can be a considerable rise in the temperature inside the car.

Before playing, clean the discs with an optional cleaning cloth. Wipe each disc in the direction of the arrows.

Do not use solvents such as benzine, thinner, commercially available cleaners or antistatic spray intended for analog discs.

Remarques sur les disques compacts

Un disque sale ou défectueux peut provoquer des pertes de son à la lecture. Manipuler le disque comme suit pour obtenir un son optimal.

Manipuler le disque par son arête et le maintenir dans un état propre, ne pas le toucher sur la surface non imprimée.

Ne pas coller de papier ou de bande adhésive sur le disque.

Ne pas laisser les disques en plein soleil ou près d'une source de chaleur comme des conduits d'air chaud. Ne pas laisser les disques dans une voiture garée en plein soleil car la température de l'habitacle risque d'augmenter considérablement.

Avant la lecture, essuyer les disques avec un chiffon de nettoyage en option. Essuyer chaque disque dans le sens des flèches.

Ne pas utiliser de solvants tels que de la benzine, du diluant, de produits de nettoyage vendus dans le commerce ou de vaporisateurs anti-statiques destinés aux disques analogiques.

Notas sobre discos compactos

Es posible que se produzca ausencia de sonido durante la reproducción, si el disco está sucio o es defectuoso. Para disfrutar de una calidad de sonido óptima, utilice el disco de la siguiente forma.

Maneje el disco por los bordes. Para mantenerlo limpio, no toque la superficie sin etiqueta.

No adhiera papeles ni cinta sobre el disco.

No exponga los discos a la luz solar directa ni a fuentes térmicas, como conductos de aire caliente. No deje los discos en un automóvil aparcado bajo la luz solar directa donde pueda producirse un considerable aumento de temperatura en el interior de dicho automóvil.

Antes de la reproducción, limpie los discos con un paño de limpieza opcional en la dirección de las flechas.

No utilice disolventes como bencina, diluyentes, productos de limpieza disponibles en tiendas del ramo ni aerosoles antiestáticos destinados a discos analógicos.

雷射唱碟須知

唱碟髒了或變形，可能會在放音時發生聲音脫落現像。為保持良好的音質錄作，請按照如下所述正確地拿唱碟。

請拿唱碟邊緣以保持唱碟清潔，不要接觸沒貼標簽的唱碟面。

不要在唱碟上貼紙條或黏膠帶。

不要讓唱碟暴露於直射陽光下或熱氣管等熱源旁邊。也不要把唱碟放在停駐在炎陽下的汽車裡，因為那裡會升到很高的溫度。

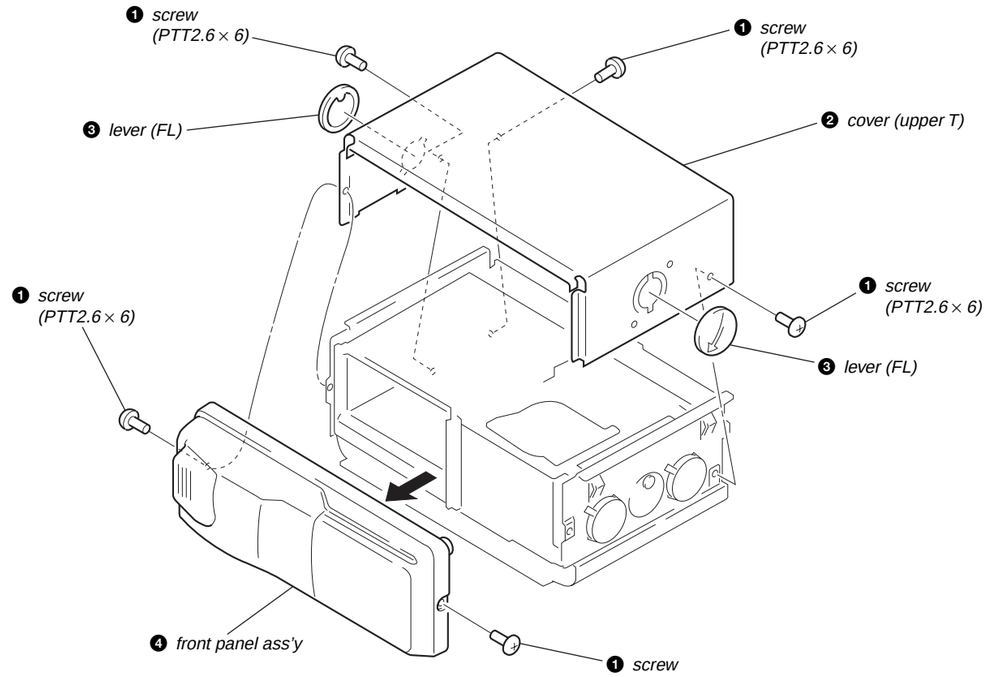
放音前，請用選購件的清潔用布擦拭乾淨唱碟。如圖所示沿箭頭所指方向擦拭。

不可利用油精、稀釋劑，市售的清潔劑或模擬式唱碟用的抗靜電噴射劑等溶劑清潔唱碟。

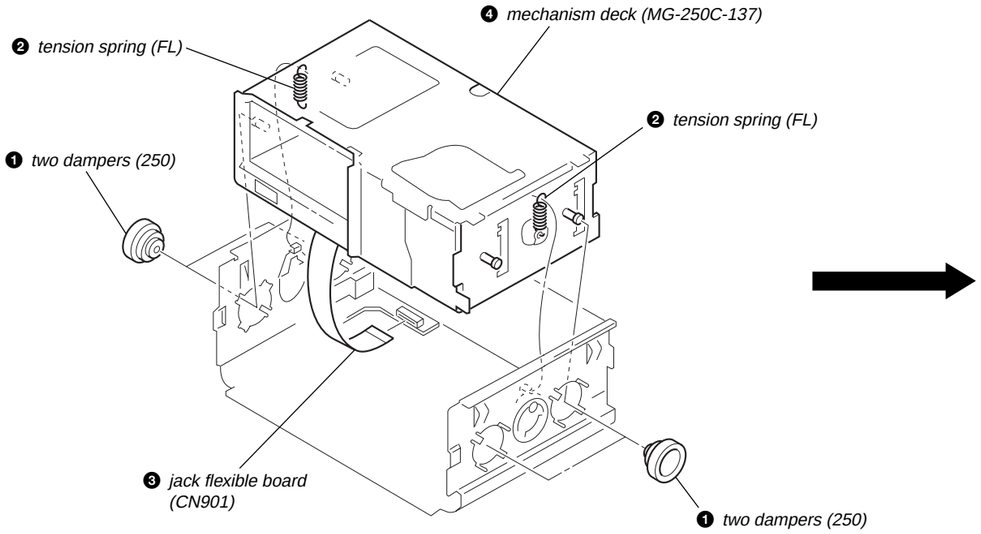
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

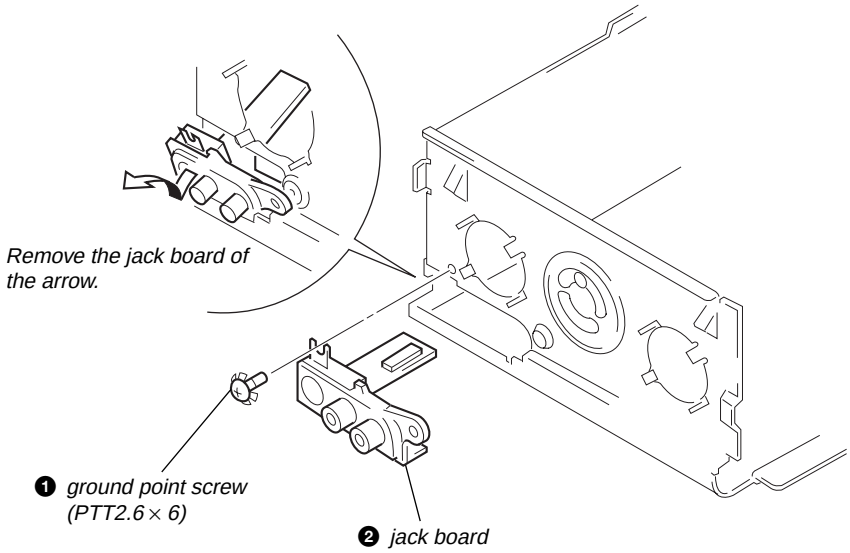
COVER (UPPER T), FRONT PANEL ASS'Y


1 screw (PTT2.6 × 6)
1 screw (PTT2.6 × 6)
3 lever (FL)
2 cover (upper T)
1 screw (PTT2.6 × 6)
1 screw (PTT2.6 × 6)
3 lever (FL)
4 front panel ass'y
1 screw (PTT2.6 × 6)

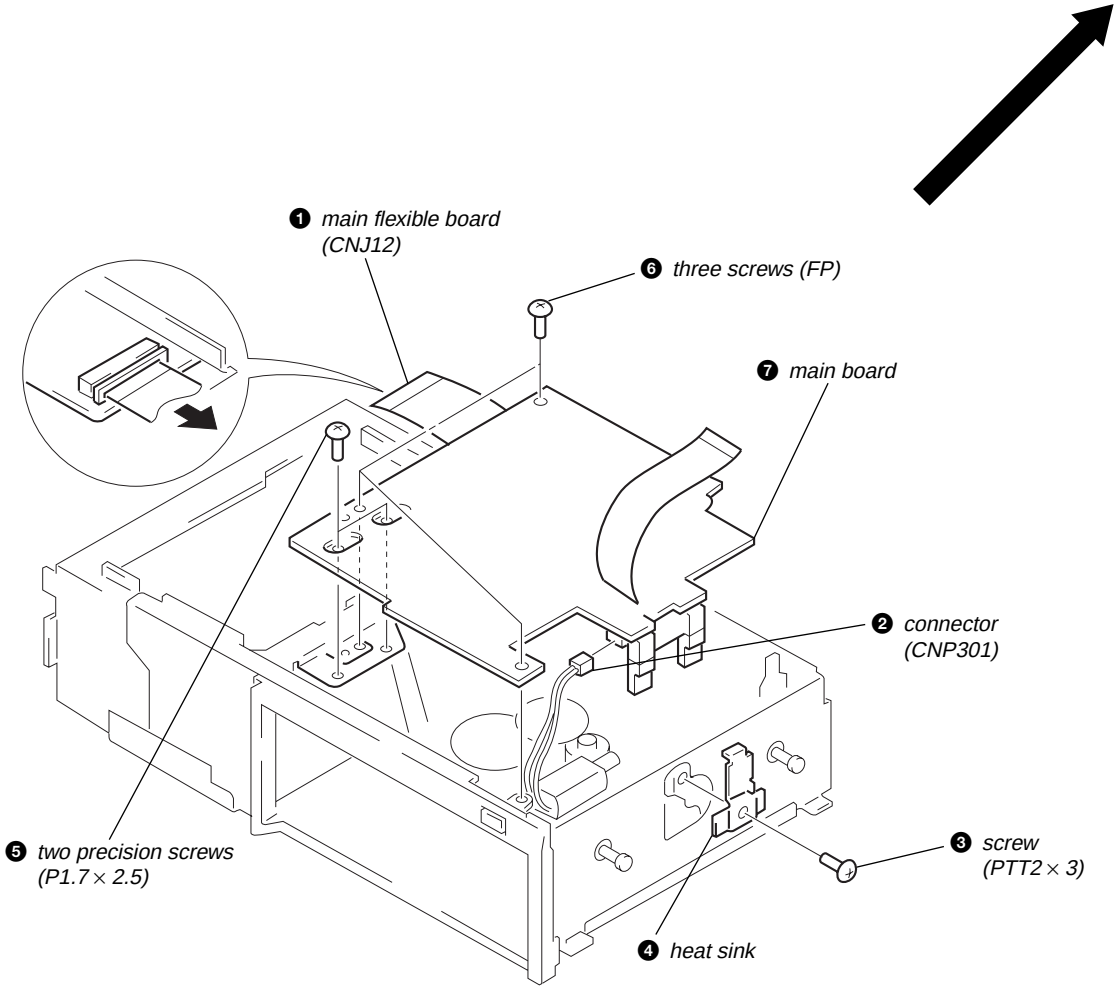
MECHANISM DECK (MG-250C-137)


4 mechanism deck (MG-250C-137)
2 tension spring (FL)
2 tension spring (FL)
1 two dampers (250)
3 jack flexible board (CN901)
1 two dampers (250)

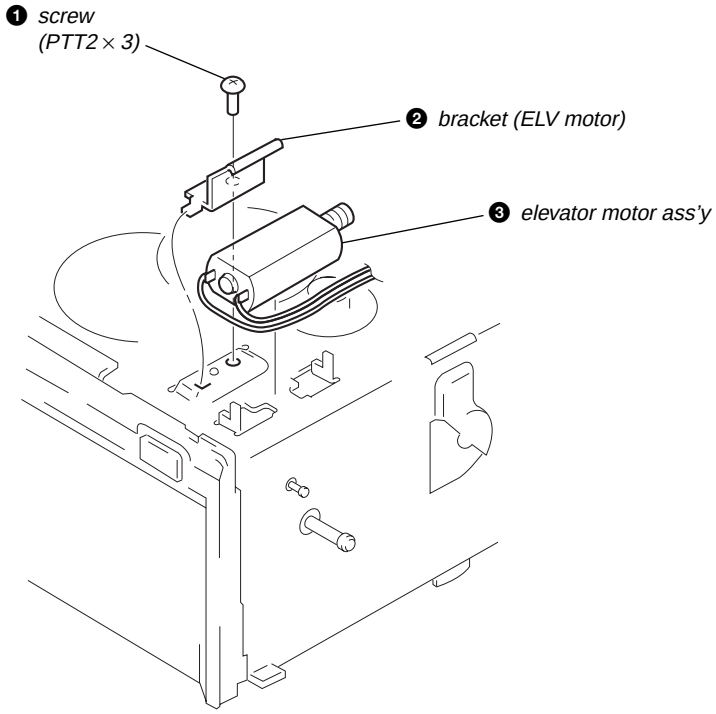
JACK BOARD



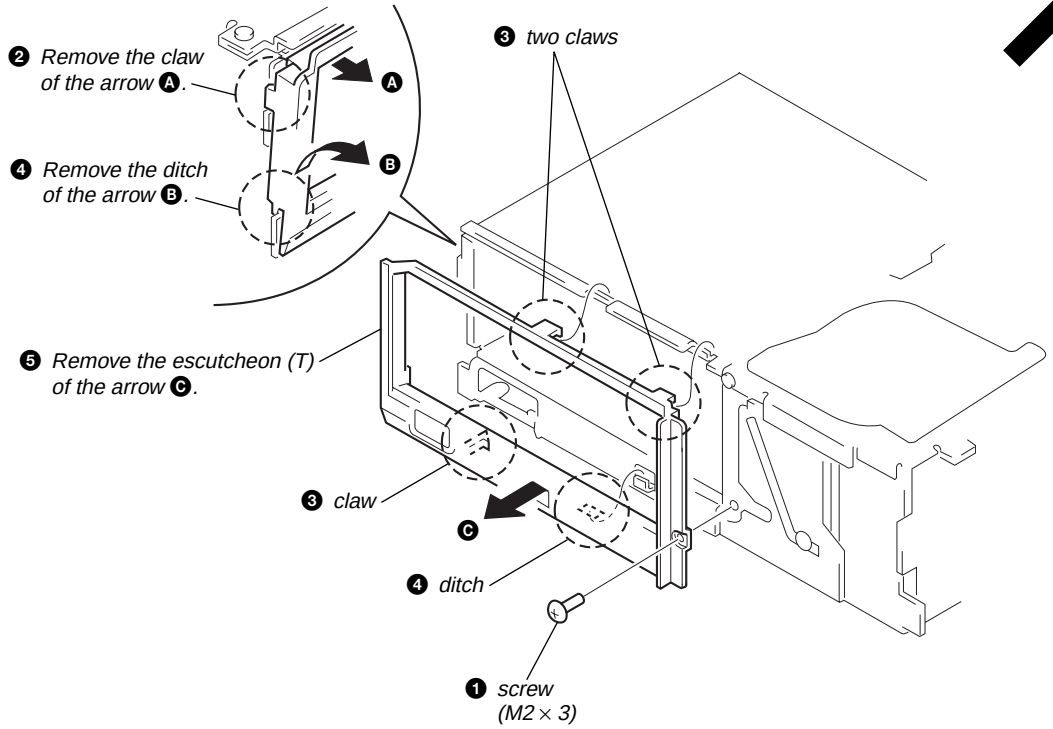
MAIN BOARD


❶ main flexible board (CNJ12)
❻ three screws (FP)
❼ main board
❷ connector (CNP301)
❺ two precision screws (P1.7 × 2.5)
❸ screw (PTT2 × 3)
❹ heat sink

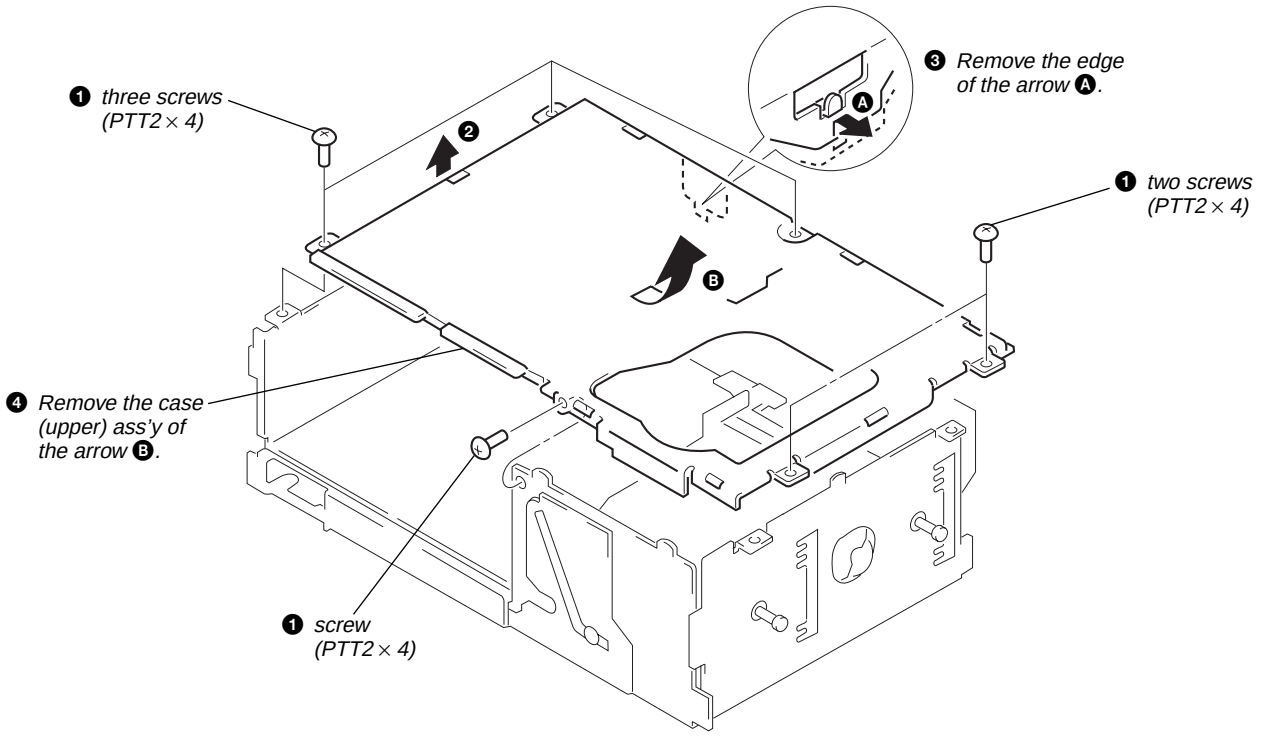
ELEVATOR MOTOR ASS'Y (M104)



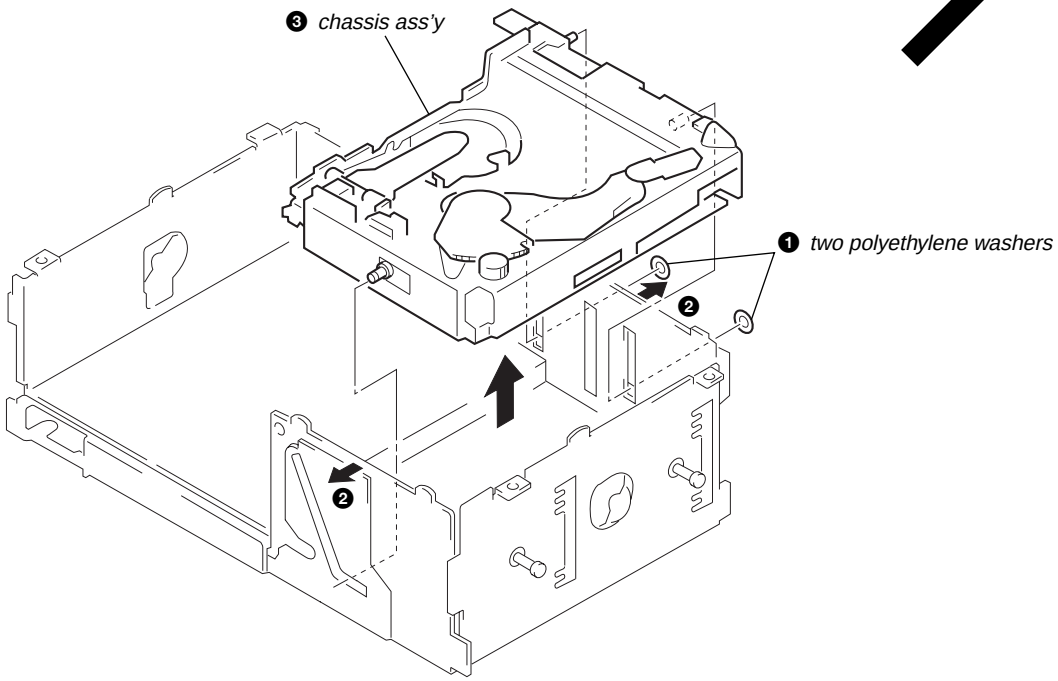
ESCUTCHEON (T)


❷ Remove the claw of the arrow Ⓐ.
❸ two claws
❹ Remove the ditch of the arrow Ⓑ.
❺ Remove the escutcheon (T) of the arrow Ⓒ.
❸ claw
❹ ditch
❶ screw
(M2 × 3)

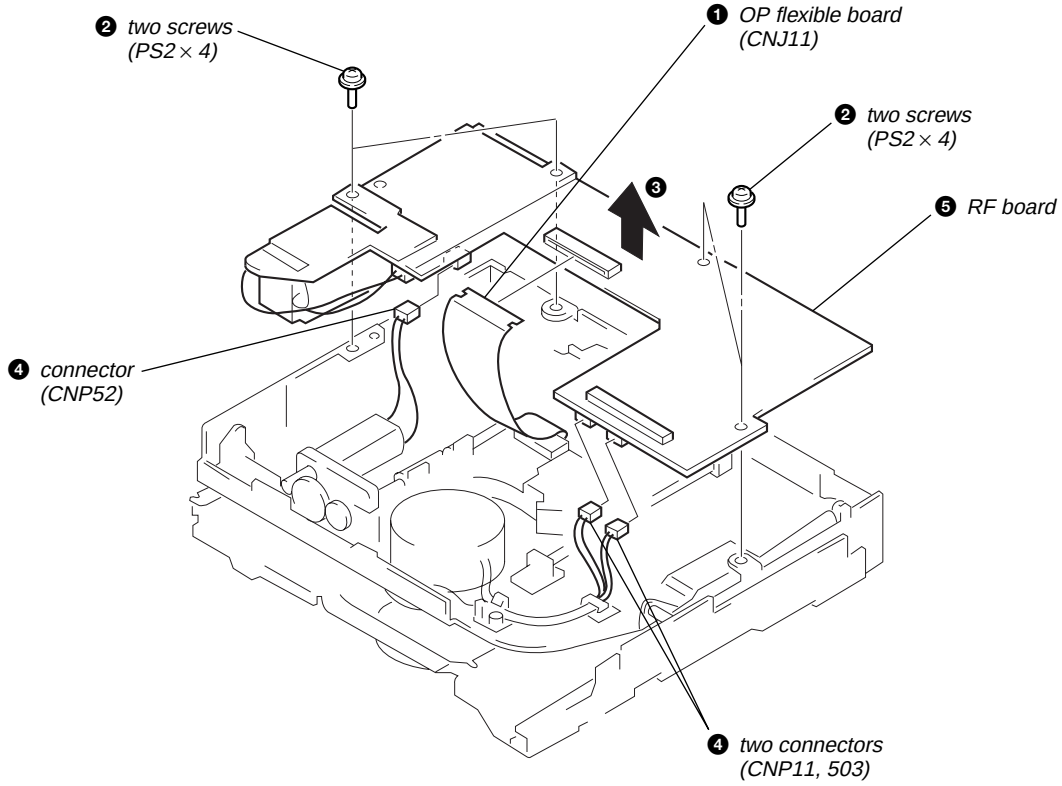
CASE (UPPER) ASS'Y


❶ three screws (PTT2 × 4)
❷
❸ Remove the edge of the arrow Ⓐ.
❶ two screws (PTT2 × 4)
Ⓑ
❹ Remove the case (upper) ass'y of the arrow Ⓑ.
❶ screw (PTT2 × 4)

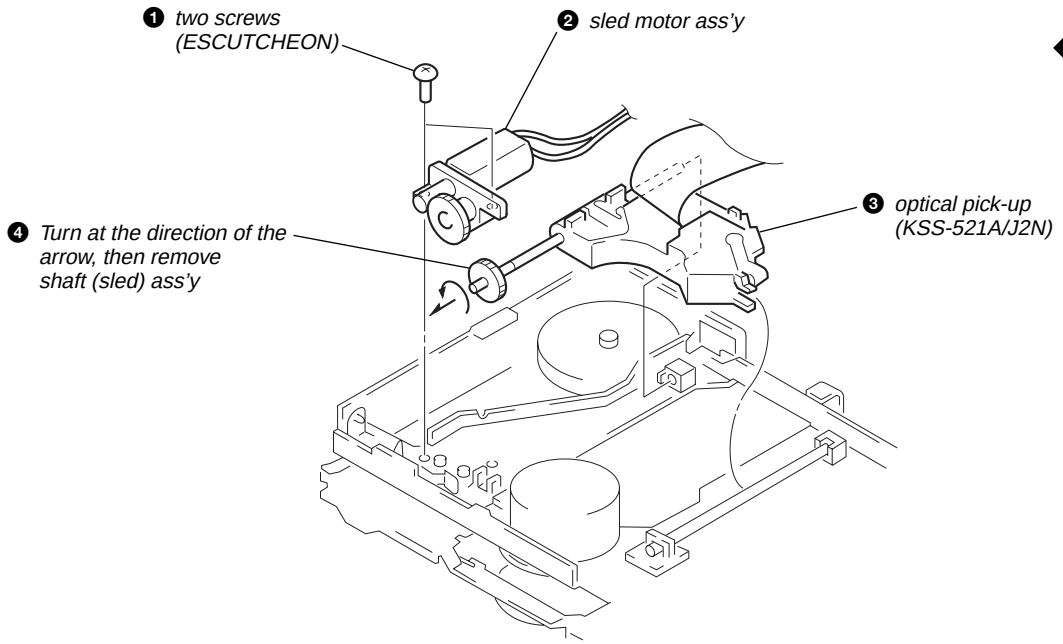
CHASSIS ASS'Y



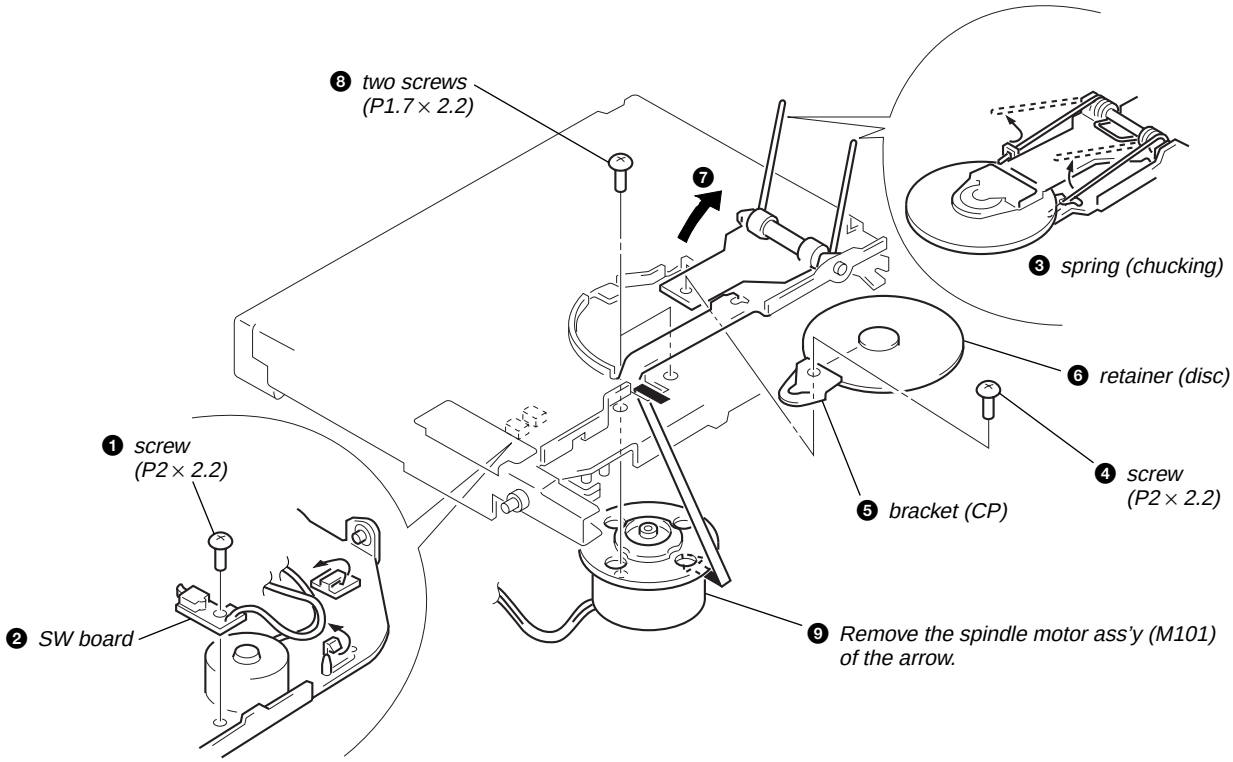
RF BOARD



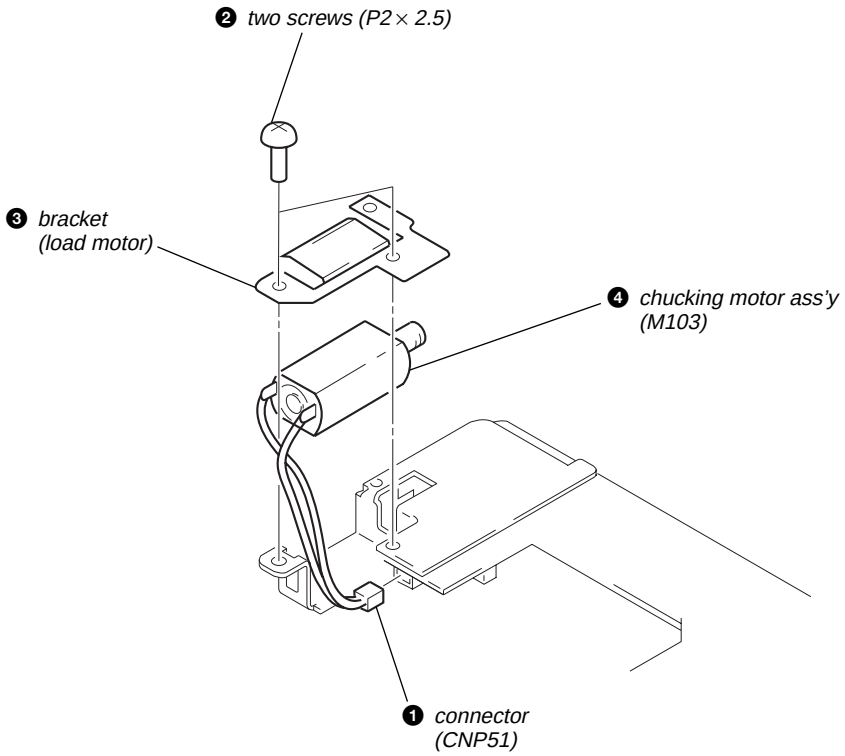
SLED MOTOR ASS'Y (M102), OPTICAL PICK-UP (KSS-521A/J2N)



SW BOARD, SPINDLE MOTOR ASS'Y (M101)


❽ two screws (P1.7 × 2.2)
❼
❸ spring (chucking)
❻ retainer (disc)
❶ screw (P2 × 2.2)
❹ screw (P2 × 2.2)
❺ bracket (CP)
❷ SW board
❾ Remove the spindle motor ass'y (M101) of the arrow.

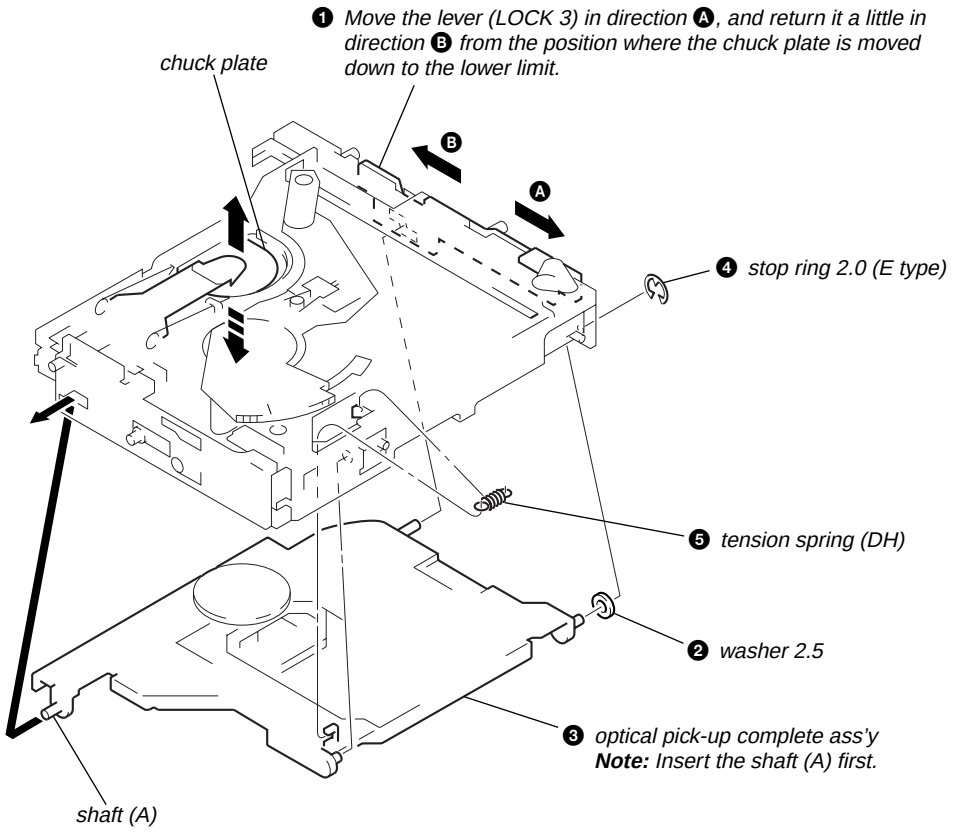
CHUCKING MOTOR ASS'Y (M103)



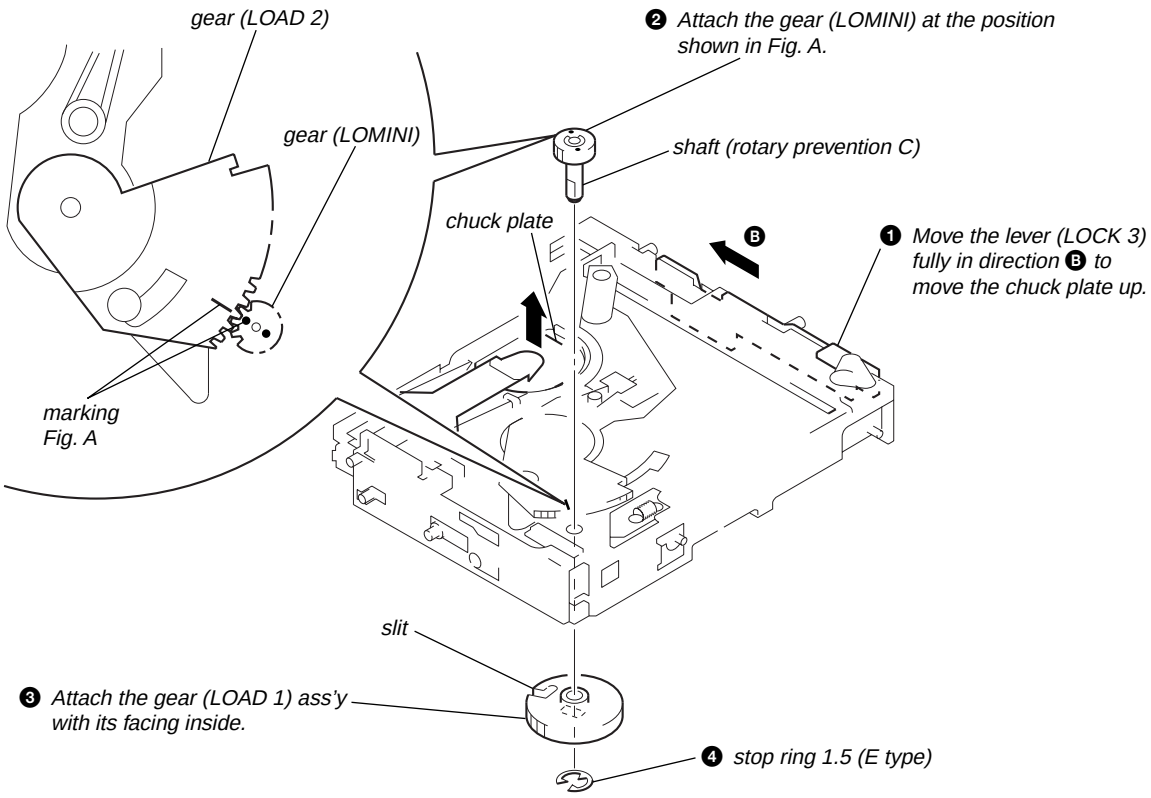
SECTION 4
MECHANISM DECK ASSEMBLY

Note: Follow the assembly procedure in the numerical order given.

OPTICAL PICK-UP COMPLETE ASS'Y

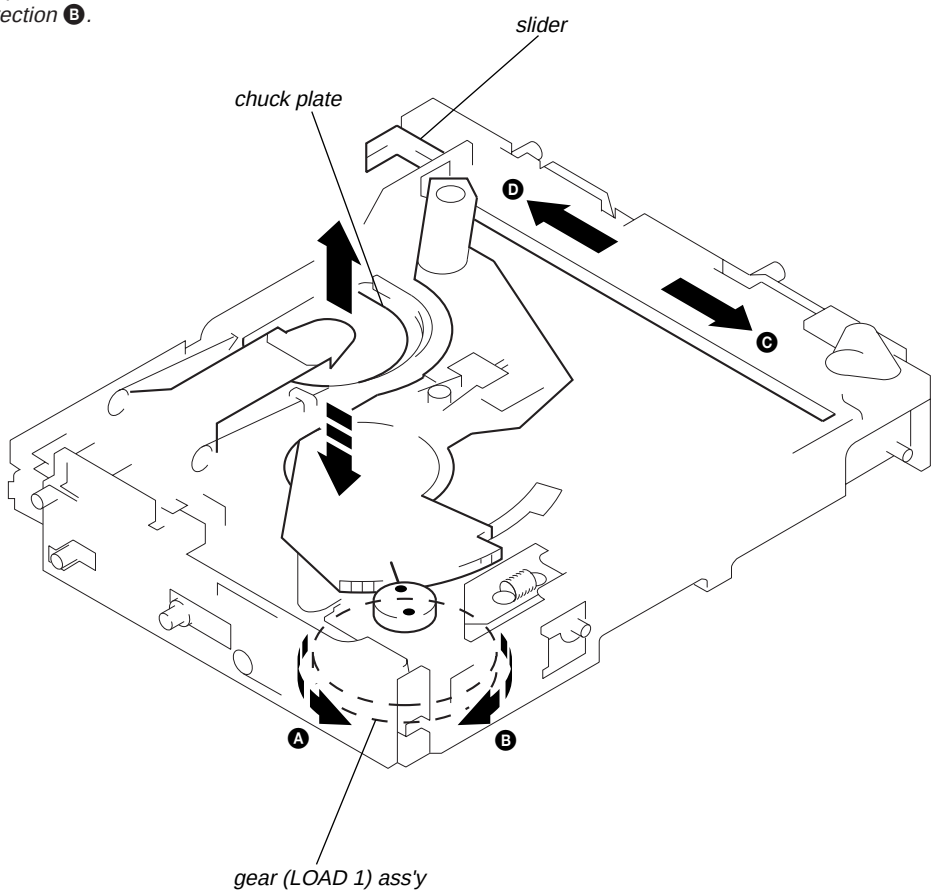

❶ Move the lever (LOCK 3) in direction Ⓐ, and return it a little in direction Ⓑ from the position where the chuck plate is moved down to the lower limit.
chuck plate
Ⓑ
Ⓐ
❹ stop ring 2.0 (E type)
❺ tension spring (DH)
❷ washer 2.5
❸ optical pick-up complete ass'y
Note: Insert the shaft (A) first.
shaft (A)

GEAR (LOMINI) / (LOAD 1) ASS'Y


gear (LOAD 2)
gear (LOMINI)
marking
Fig. A
❷ Attach the gear (LOMINI) at the position shown in Fig. A.
shaft (rotary prevention C)
chuck plate
Ⓑ
❶ Move the lever (LOCK 3) fully in direction Ⓑ to move the chuck plate up.
slit
❸ Attach the gear (LOAD 1) ass'y with its facing inside.
❹ stop ring 1.5 (E type)

OPERATION CHECK

❶ *Confirm that the slider moves in direction Ⓒ to move down the chuck plate if the gear (LOAD 1) is rotated in direction Ⓐ or the chuck plate moves up and the slider moves in direction Ⓓ if the gear is rotated in direction Ⓑ.*

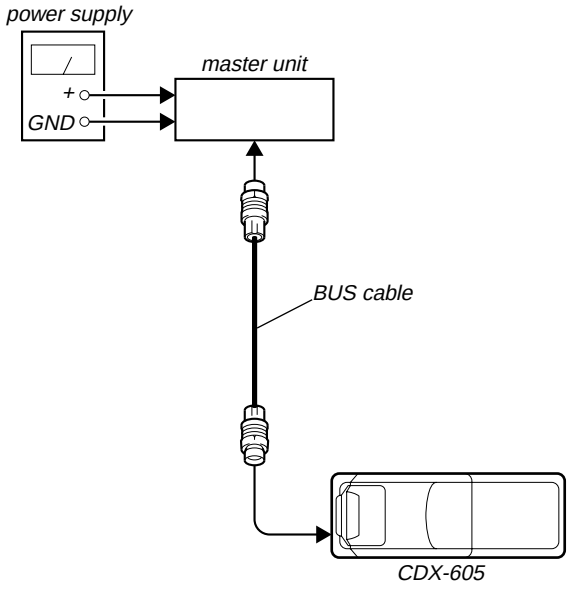


SECTION 5
MECHANICAL ADJUSTMENTS

• Elevator Height (Address) Adjustment

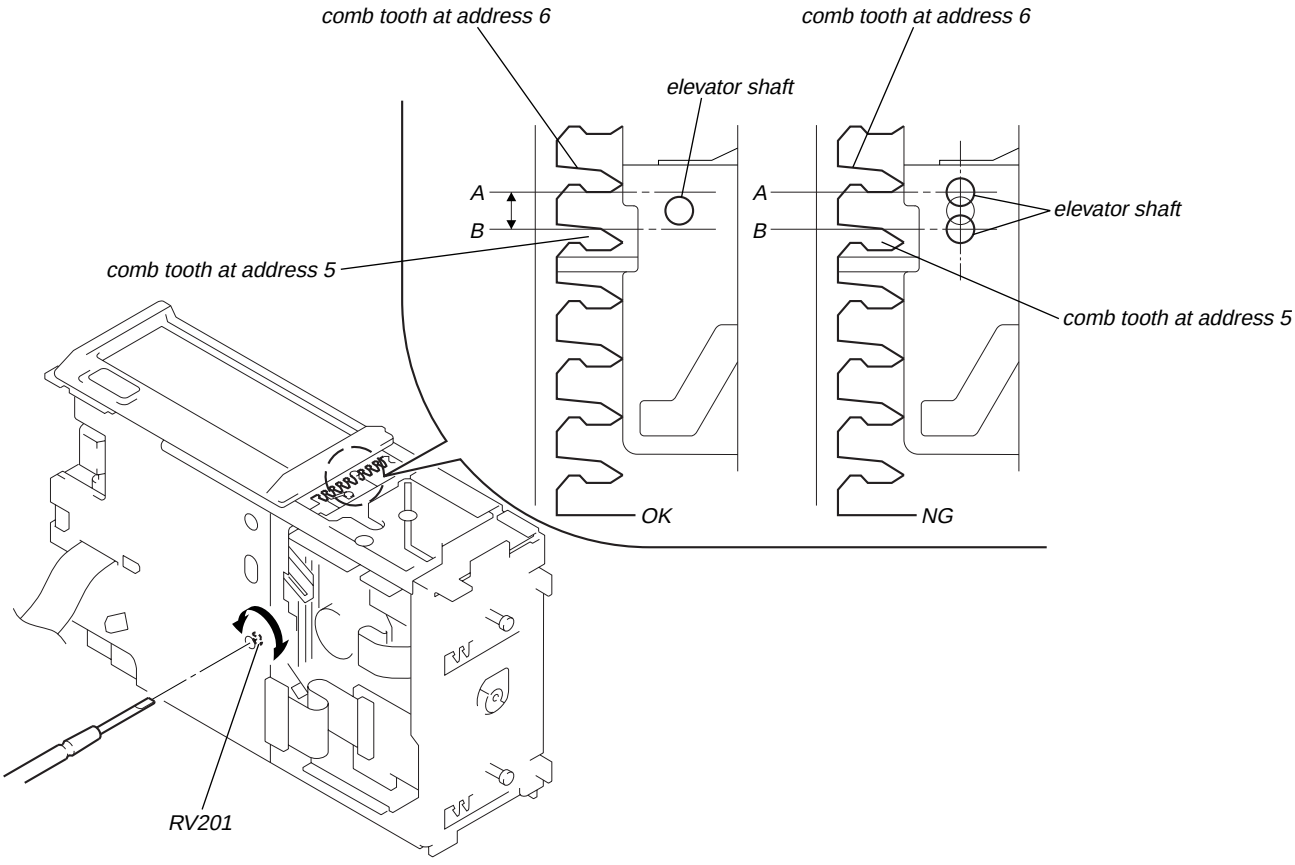
Note: This adjustments is necessary when the system controller (IC201), variable resistor (RV201), slider (R), slider (L), or chassis (ELV) was replaced for any repair.

Connection:



Adjustment Method:

1. Connect this set to the master unit (e.g. MDX-C670/C670RDS), load a disc magazine, and place the set vertically as shown below.
2. Connect the regulated power supply to the master unit, and turn the power on.
3. Press the DISC button on the master unit and select DISC 5.
4. At this time, if the elevator shaft does not position between comb teeth A and B at addresses 5 and 6 as shown below, adjust the following.
5. Press repeatedly the DISC + and – buttons on the master unit so that the elevator shafts moves from address 6 to address 5, or from 5 to 6. At this time, adjust RV201 on the main board so that the elevator shaft positions smoothly between comb teeth A and B.
6. Further, place the set horizontally and make same adjustment as mentioned above.
7. After adjustment at addresses 5 to 6 is finished, check all operations from addresses 1 to 10 with the set placed vertically and horizontally respectively to confirm that the elevator shaft positions in a range between comb teeth A to B.

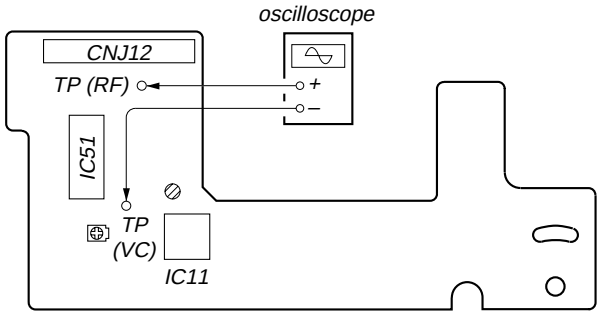


SECTION 6
ELECTRICAL ADJUSTMENTS

Note:
1. Perform adjustments as given.
2. Be sure to use the disc "YEDS-18" parts code: 3-702-101-01, but only when indicated.
3. Power supply voltage: DC14.4 V (more than 3A).

• FOCUS BIAS CHECK

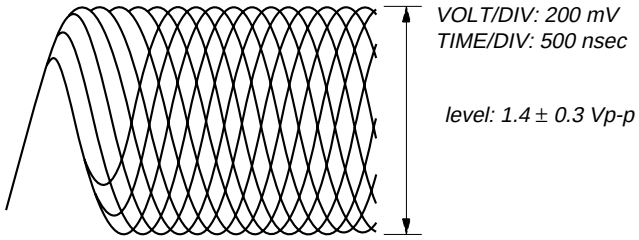
[RF BOARD] – Conductor Side –



Procedure:
1. Connect the oscilloscope to RF board test point RF.
2. Put the set into play mode by loading the disc.
3. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

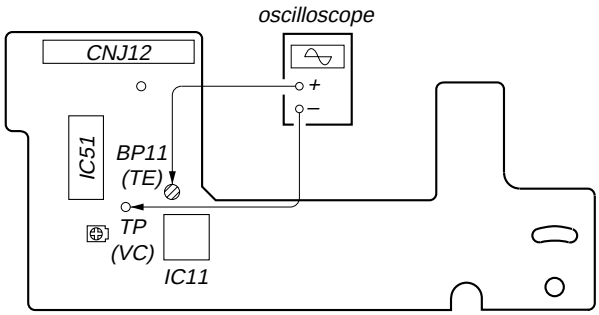
Note:
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform

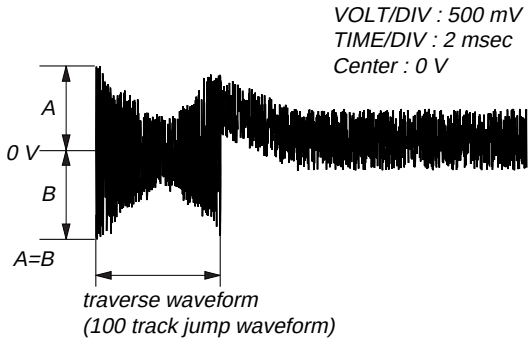


• TRACKING OFFSET CHECK

[RF BOARD] – Conductor Side –



Procedure:
1. Connect the oscilloscope to RF board bridge point TE.
2. Put the set into play mode by loading the disc.
3. Press the ⏮ AMS ⏭ button, then, check the traverse waveform.
4. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 V dc, and check this level.
   * Traverse waveform: This is the tracking error wave form appears when crossing the track.

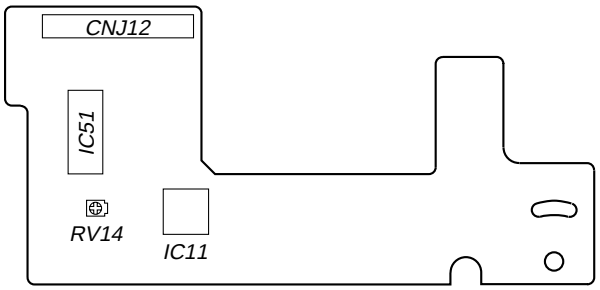


• FOCUS GAIN ADJUSTMENT (COARSE ADJUSTMENT)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV14

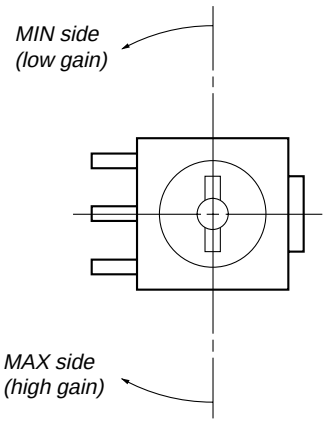
[RF BOARD] – Conductor Side –



Procedure:

1. Set RV14 (RF board) to the standard position.
2. Check that there is not an abnormal amount of operation noise (white noise) from the 2-axis devise. If there is, turn RV14 slightly clockwise.

[RF BOARD] – Conductor Side –



RV14 standard position

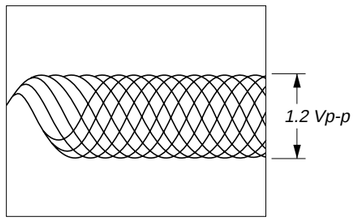
- **When gain is lowered...**
  The set does not play because of no focus operation.
- **When gain is highered...**
  Operation noise is heard due to a scratch or a dust, then operation will be unstable.

SECTION 7
DIAGRAMS

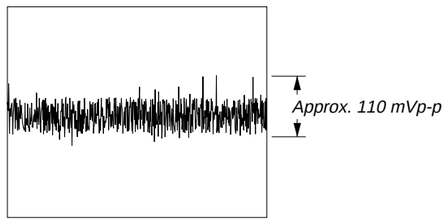
• Waveforms

– RF Section –

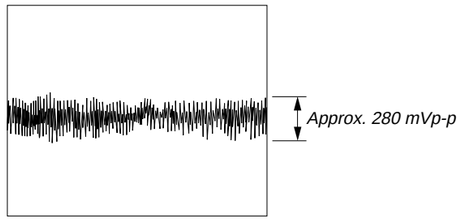
❶ IC11 ① (FEO)
500 mV/DIV, 500 nsec/DIV



❷ IC11 ② (FEI)
50 mV/DIV, 1 µsec/DIV

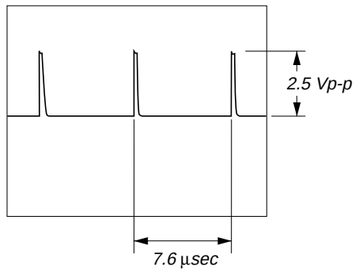


❸ IC11 ㊼ (TEI)
200 mV/DIV, 500 µsec/DIV

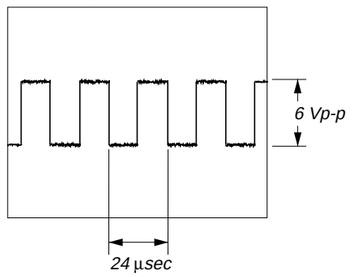


– MAIN Section –

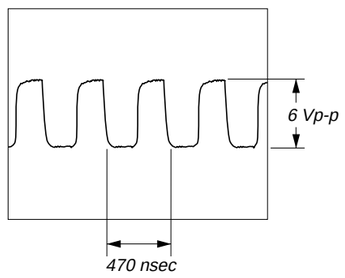
❶ IC101 ㉗ (MDP)



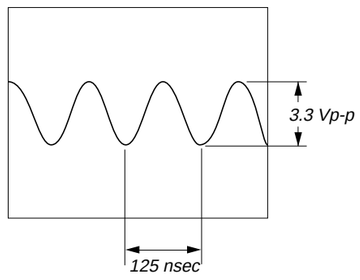
❷ IC101 ㊿ (LRCK)



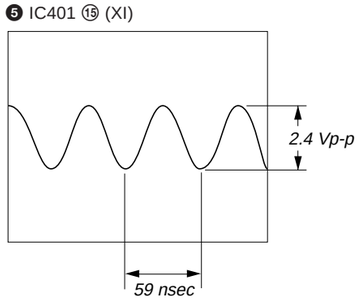
❸ IC101 ㊹ (BCK)



❹ IC302 ㉛ (EXTAL)



❺ IC401 ⑮ (XI)



7-1. NOTES FOR PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- ▬ : adjustment for repair.
- Power voltage is dc 14.4V and fed from CD changer controller.
- Voltages and waveforms are dc with respect to ground in playback mode.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ● : Through hole.
- △ : internal component.
- ▒ : Pattern from the side which enables seeing.

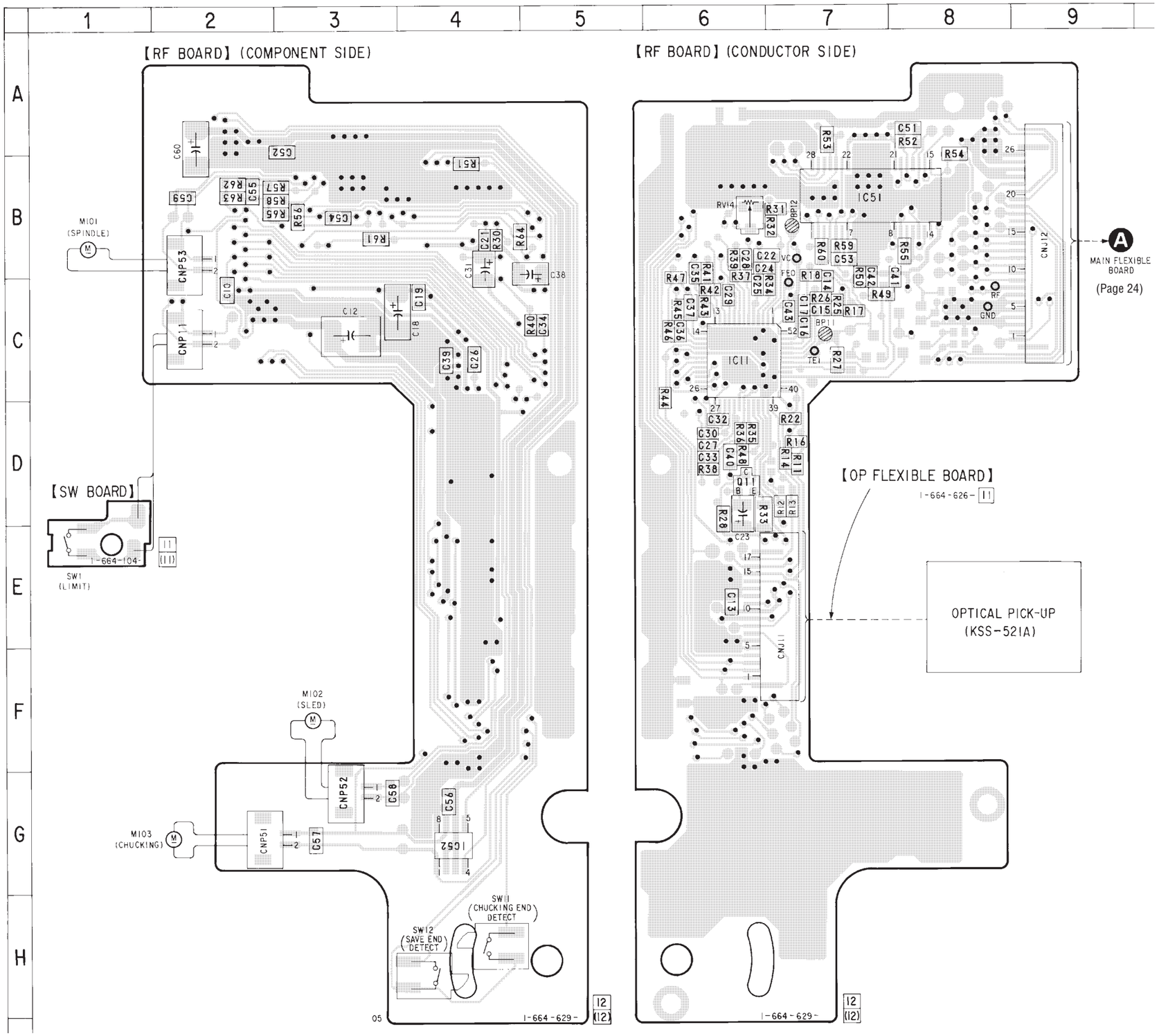
(The other layers' patterns are not indicated.)

Caution:
Pattern face side: (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side) Parts on the parts face side seen from the parts face are indicated.

7-2. PRINTED WIRING BOARDS – RF Section –

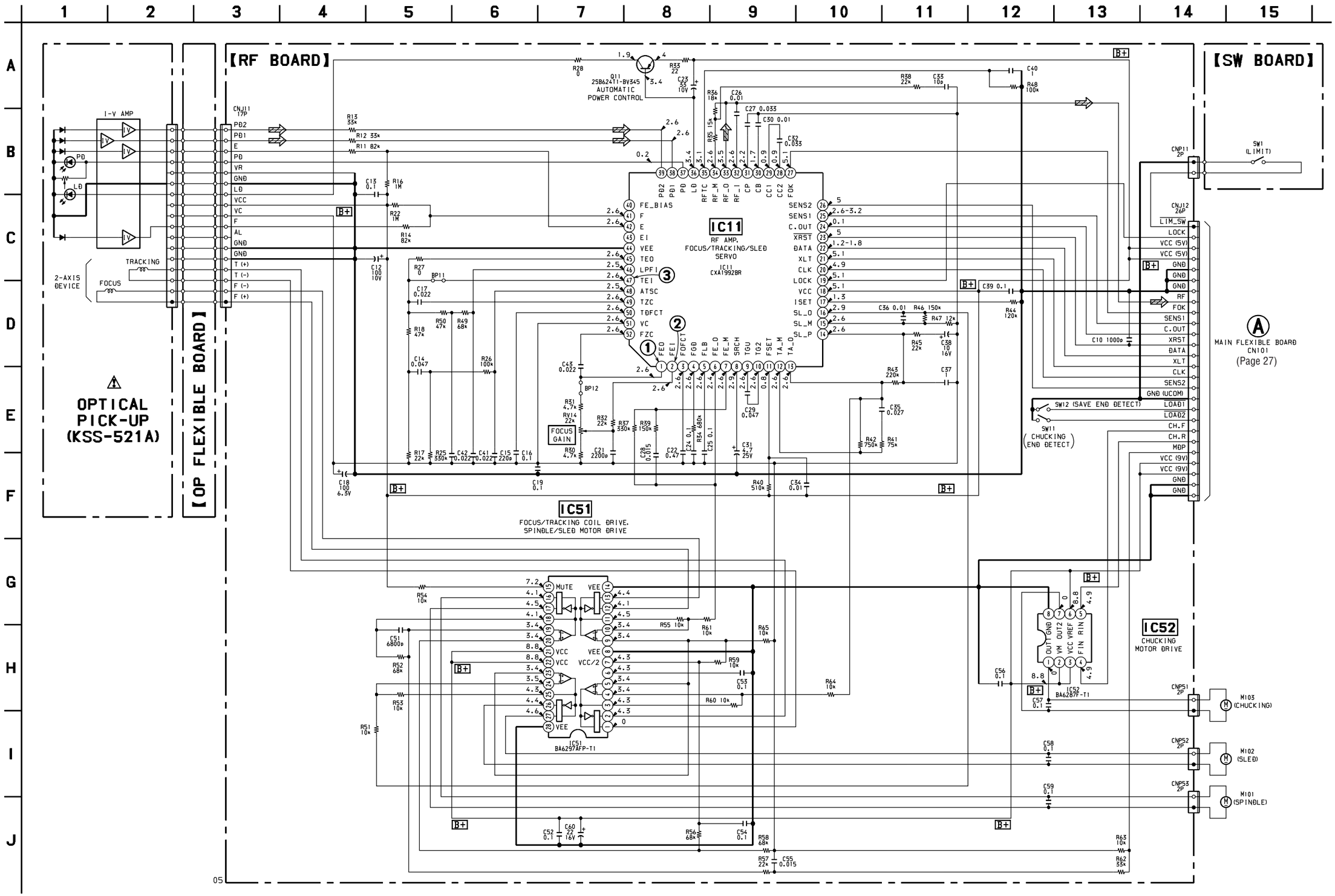
• **Semiconductor Location**

Ref. No.	Location
IC11	C-6
IC51	B-7
IC52	G-4
Q11	D-6



7-3. SCHEMATIC DIAGRAM – RF Section –

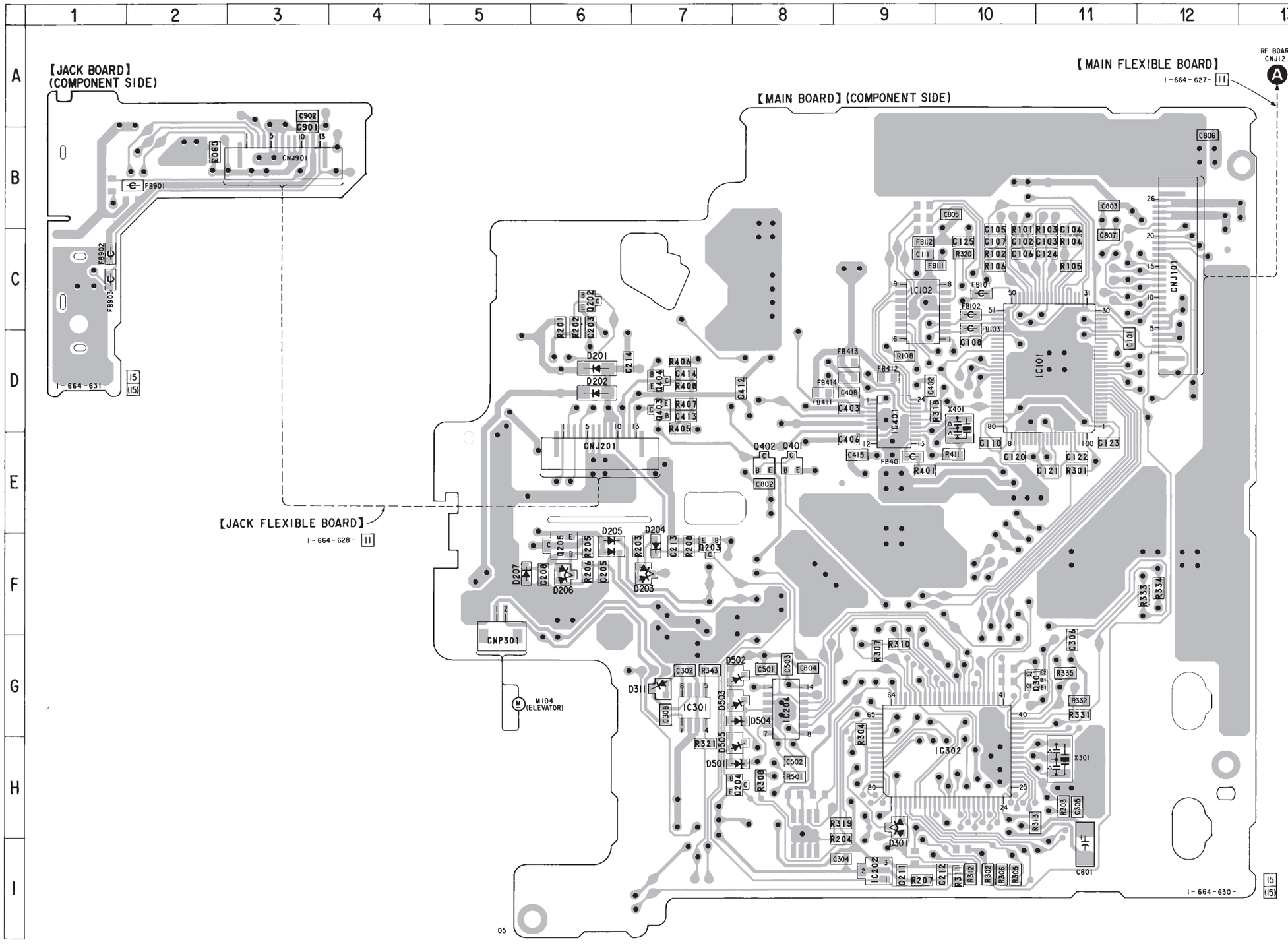
• See page 17 for Waveforms. • See page 31 for IC Block Diagrams.



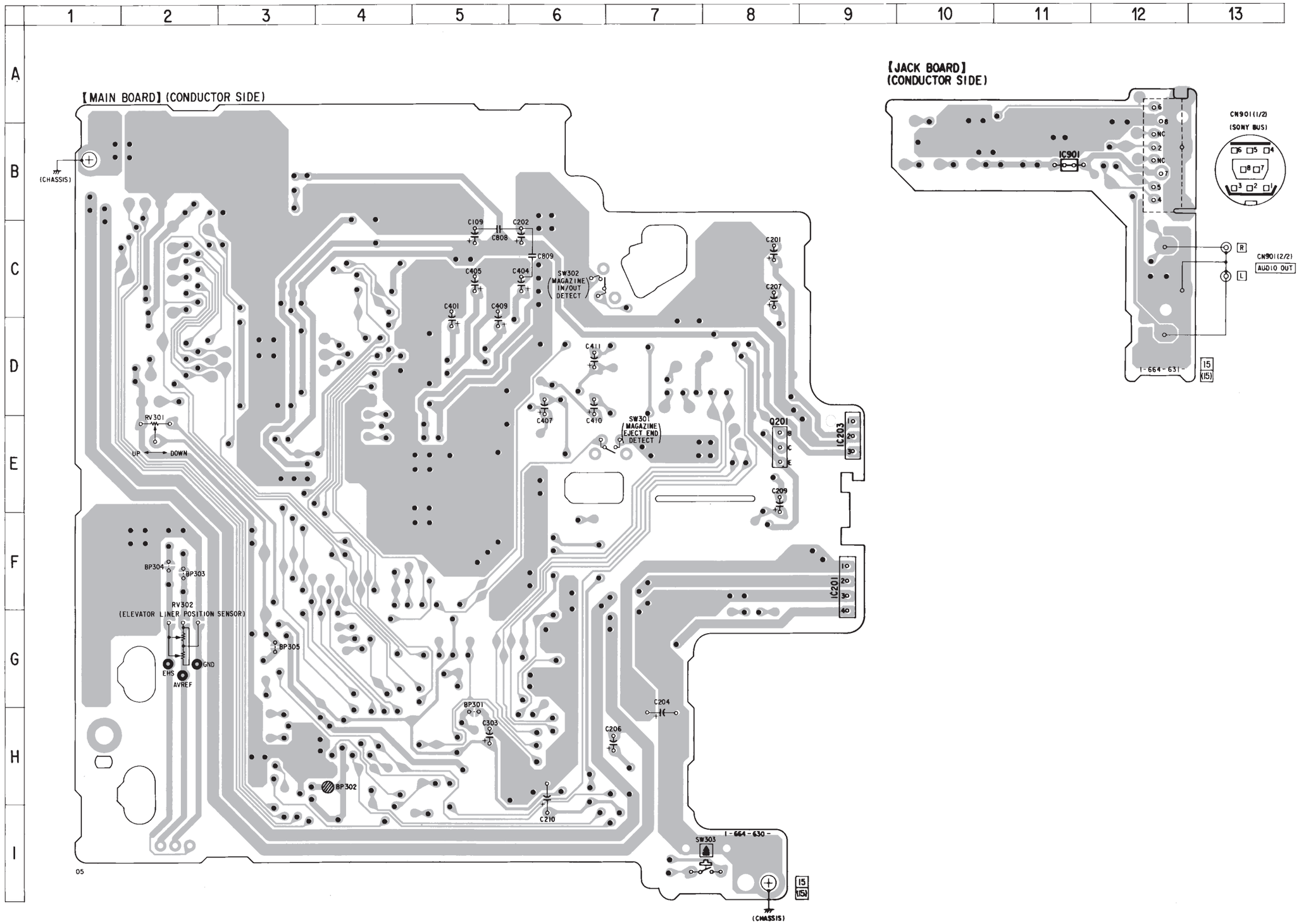
7-4. PRINTED WIRING BOARDS – MAIN/JACK BOARD (Component side) –

- **Semiconductor Location**

Ref. No.	Location
D201	D-6
D202	D-6
D203	F-7
D204	F-7
D205	F-6
D206	F-6
D207	F-5
D301	H-9
D311	G-7
D501	H-8
D502	G-8
D503	G-8
D504	G-8
D505	H-8
IC101	D-11
IC102	C-9
IC202	I-9
IC204	G-8
IC301	G-7
IC302	H-10
IC401	D-9
Q202	C-6
Q203	F-7
Q204	H-8
Q205	F-6
Q301	G-11
Q401	E-8
Q402	E-8
Q403	D-7
Q404	D-7



7-5. PRINTED WIRING BOARDS – MAIN/JACK BOARD (Conductor side) –

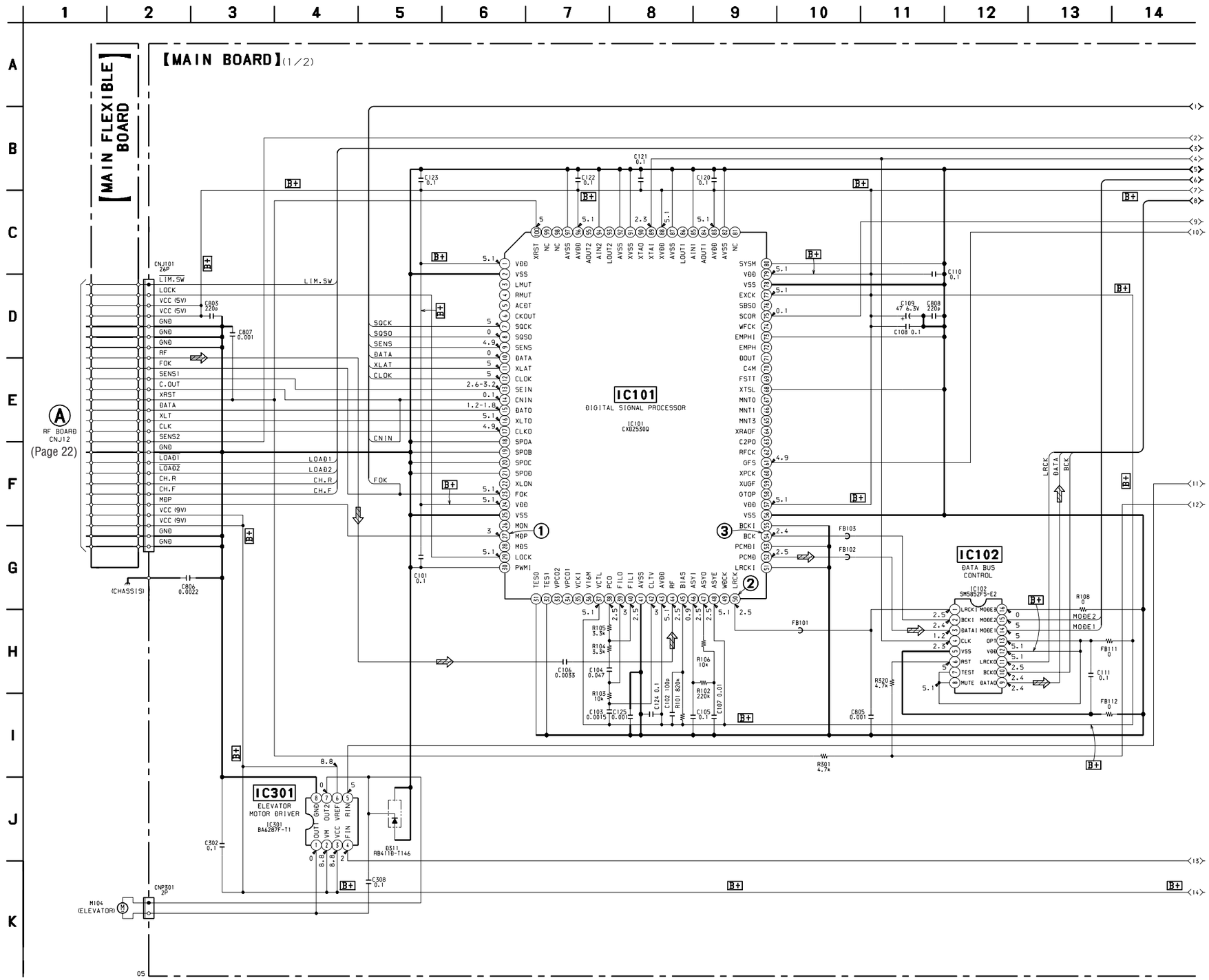


- **Semiconductor Location**

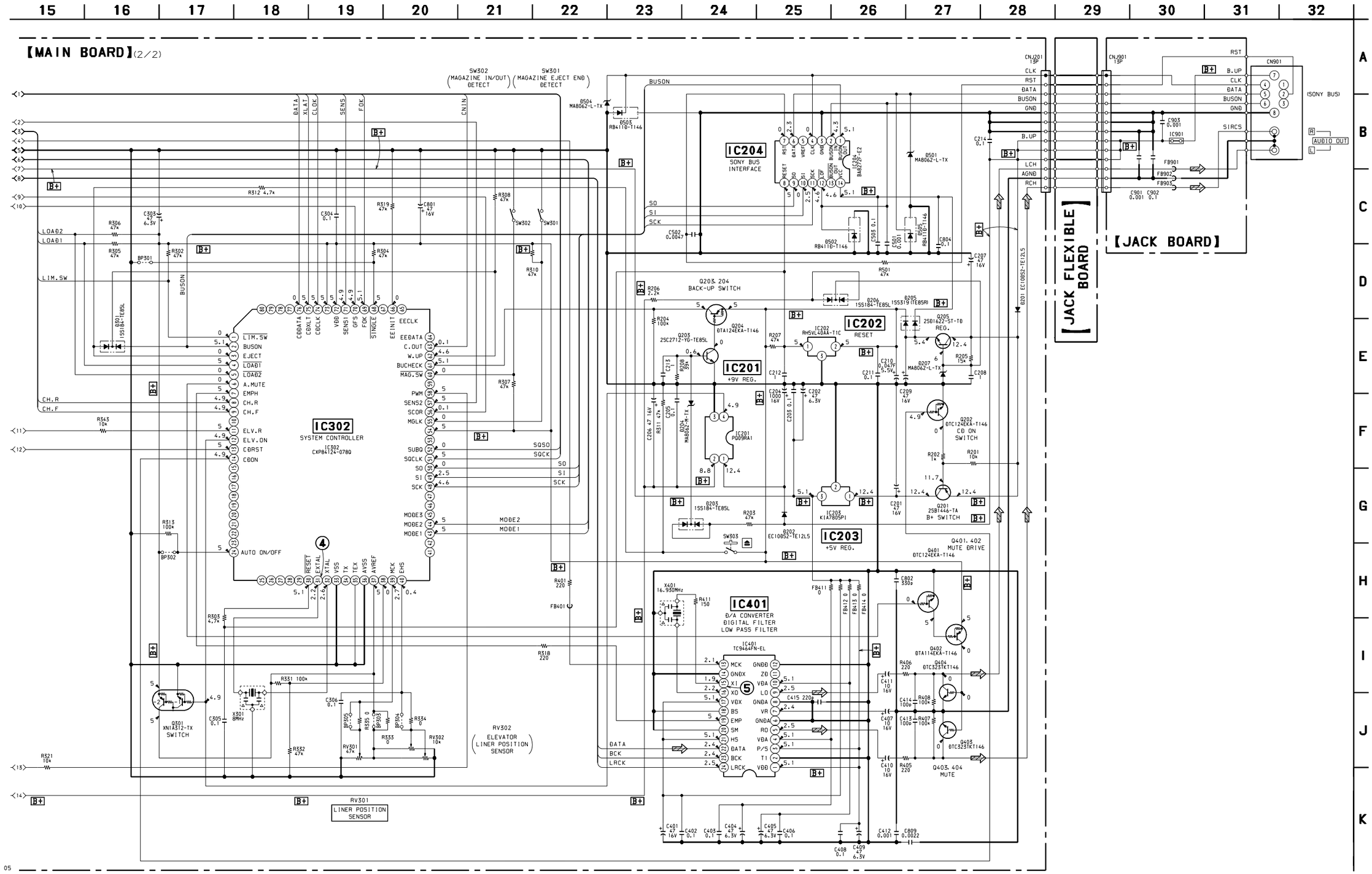
Ref. No.	Location
IC201	F-9
IC203	E-9
Q201	E-8

7-6. SCHEMATIC DIAGRAM – MAIN Section (1/2) –

• See page 17 for Waveforms. • See page 31 for IC Block Diagrams.

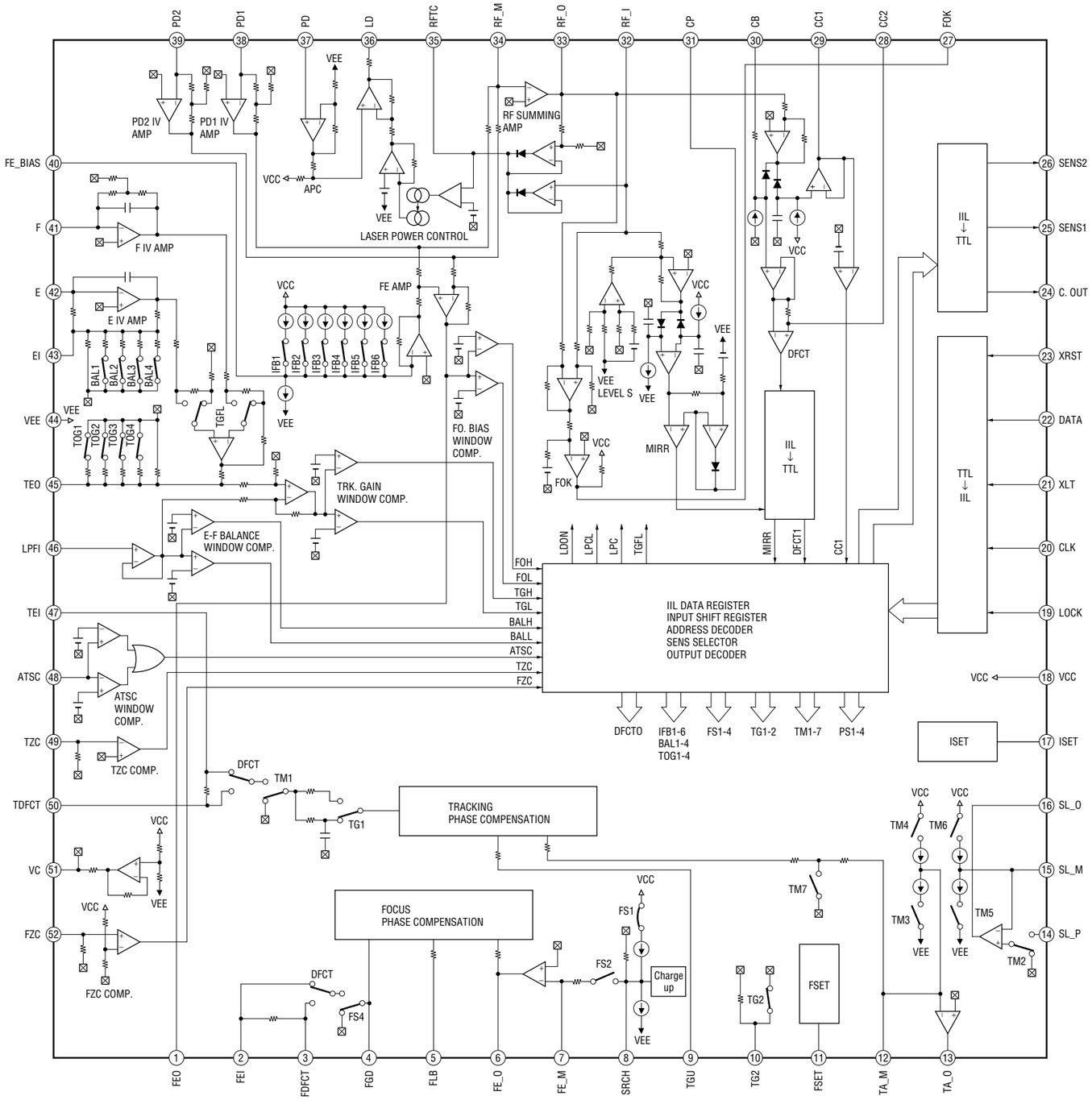


7-7. SCHEMATIC DIAGRAM – MAIN Section (2/2) – • See page 17 for Waveforms. • See page 31 for IC Block Diagrams.

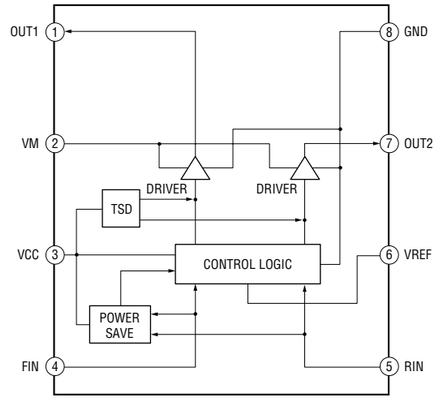


- **IC Block Diagrams**

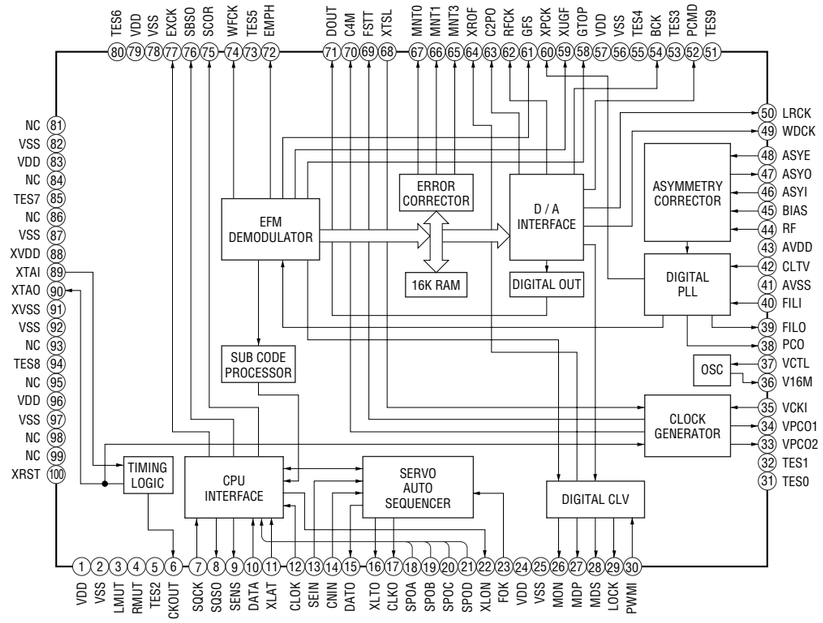
IC11 CXA1992BR (RF BOARD)



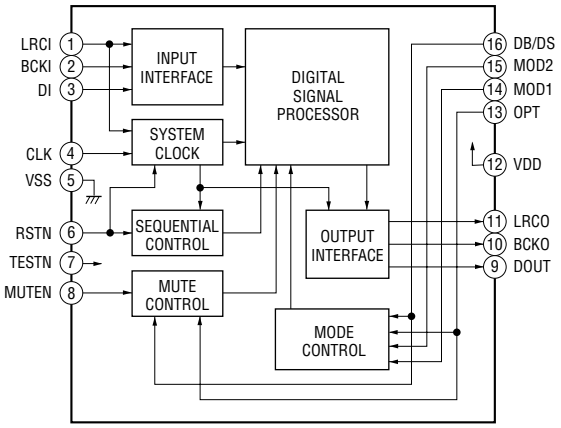
IC52 BA6287F (RF BOARD)
IC301 BA6287F (MAIN BOARD)



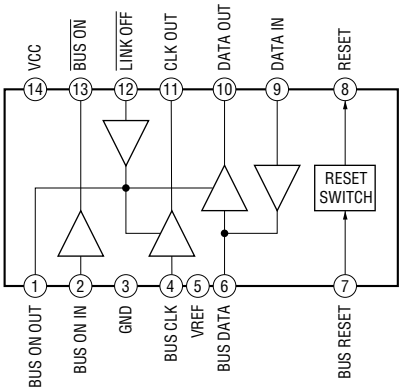
IC101 CXD2530Q (MAIN BOARD)



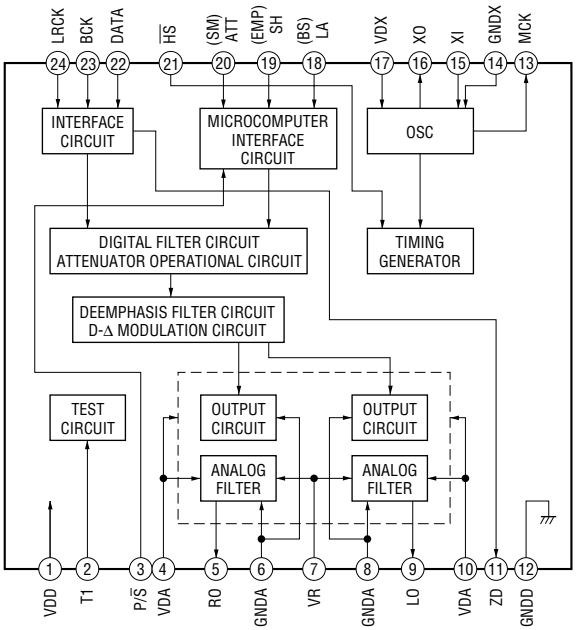
IC102 SM5852FS-E2 (MAIN BOARD)



IC204 BA8272F-E2 (MAIN BOARD)



IC401 TC9464FN-EL (MAIN BOARD)



7-8. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC302 CXP84124-078Q (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	$\overline{\text{LIM.SW}}$	I	Sled limit in detect switch (SW1) input terminal "L": When the optical pick-up is inner position
2	BUSON	I	Bus on/off control signal input from the SONY bus interface (IC204) "H": bus on
3	EJECT	I	Eject switch (SW303) input terminal "H" active
4	$\overline{\text{LOAD1}}$	I	Save end detect switch (SW12) input terminal "L": When completion of the disc chucking operation
5	$\overline{\text{LOAD2}}$	I	Chucking end detect switch (SW11) input terminal "L": When completion of the disc chucking operation
6	A.MUTE	O	Audio line muting on/off control signal output terminal "H": muting on
7	EMPH	O	Emphasis mode output to the D/A converter (IC401) "L": emphasis on
8	CH.R	O	Motor drive signal (save direction) output to the chucking motor drive (IC52) "H" active *1
9	CH.F	O	Motor drive signal (load chucking direction) output to the chucking motor drive (IC52) "H" active *1
10	—	O	Not used (open)
11	ELV.R	O	Motor drive signal (elevator down direction) output to the elevator motor drive (IC301) "L" active *2
12	ELV.ON	O	Mechanism deck section power supply on/off control signal output "H": power on
13	$\overline{\text{CD RST}}$	O	System reset signal output to the CXA1992AR (IC11), CXD2530Q (IC101) and SM5852FS (IC102) "L": reset
14	CDON	O	D/A converter and servo section power supply on/off control signal output "H": power on
15 to 23	—	O	Not used (open)
24	AUTO ON/OFF	I	Setting terminal for the automatic adjustment "L": automatic adjustment, "H": manual adjustement (solder across the BP302 terminal) Normally: fixed at "L"
25 to 29	—	O	Not used (open)
30	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC202) and SONY bus interface (IC204) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
31	EXTAL	I	Main system clock input terminal (8 MHz)
32	XTAL	O	Main system clock output terminal (8 MHz)
33	VSS	—	Ground terminal
34	TX	O	Sub system clock output terminal Not used (open)
35	TEX	I	Sub system clock input terminal Not used (fixed at "L")
36	AVSS	—	Ground terminal (for A/D converter)
37	AVREF	I	Reference voltage (+5V) input terminal (for A/D converter)
38	ATRIBT	I	Selection input of the custom file, D-BASS, etc.
39	MCK	I	Input of signal for the fine adjustment (linear position sensor adjustment; RV301) of elevator position (A/D input)
40	EHS	I	Elevator height position detect input from the RV302 (elevator height sensor) (A/D input)
41	H.TEMP	I	High temperature sensor input terminal Not used (open)
42	—	O	Not used (open)
43	MODE1	O	D-BASS control signal output to the SM5852FS (IC102)
44	MODE2	O	D-BASS control signal output to the SM5852FS (IC102)
45	MODE3	O	D-BASS control signal output Not used (open)
46, 47	—	O	Not used (open)
48	SCK	I	Serial data transfer clock signal input from the SONY bus interface (IC204)
49	SI	I	Serial data input from the SONY bus interface (IC204)

Pin No.	Pin Name	I/O	Function
50	SO	O	Serial data output to the SONY bus interface (IC204)
51	SQCLK	O	Subcode Q data reading clock signal output to the CXD2530Q (IC101)
52	SUBQ	I	Subcode Q data input from the CXD2530Q (IC101)
53	—	O	Not used (open)
54	—	I	Not used (fixed at "H")
55	MGLK	I	Magazine eject operation completion detect switch (SW301) input terminal "L": eject completed
56	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD2530Q (IC101)
57	SENS2	I	Internal status signal (sense signal) input from the CXA1992AR (IC11)
58	PWM	O	Motor drive signal (elevator up direction) output to the elevator motor drive (IC301) "L" active *2
59	—	O	Not used (open)
60	$\overline{\text{MAG.SW}}$	I	Magazine in/out detect switch (SW302) input terminal "L": magazine detected
61	BUCHECK	I	Battery detection signal input terminal "H": battery on
62	W.UP	I	Bus on or eject switch (SW303) input terminal "H": bus on or eject switch pushing
63	C.OUT	I	Track number count signal input from the CXA1992AR (IC11)
64	EEDATA	I/O	Two-way data bus with the EEPROM Not used (open)
65	EECLK	O	Serial clock signal output to the EEPROM Not used (open)
66	EEINIT	I	Initialize signal input for the EEPROM "H": format Fixed at "L" in this set
67	—	O	Not used (open)
68	$\overline{\text{SINGLE}}$	I	Setting terminal for the single disc/multiple discs mode "L": single mode, "H": multiple discs mode (fixed at "H")
69	FOK	I	Focus OK signal input from the CXA1992AR (IC11) "L": NG, "H": OK
70	GFS	I	Guard frame sync signal input from the CXD2530Q (IC101) "L": NG, "H": OK
71	SENS1	I	Internal status signal (sense signal) input from the CXD2530Q (IC101)
72	VDD	—	Power supply terminal (+5V)
73	NC (VDD)	—	Connected to the power supply (+5V)
74	CDCLK	O	Serial data transfer clock signal output to the CXD2530Q (IC101)
75	CDXLT	O	Serial data latch pulse signal output to the CXD2530Q (IC101)
76	CDDATA	O	Serial data output to the CXD2530Q (IC101)
77 to 80	—	O	Not used (open)

*1 chucking motor (M103) control

Mode / Terminal	STOP	LOAD CHUCKING	SAVE	BRAKE
CH.F (pin ⑨)	"L"	"H"	"L"	"H"
CH.R (pin ⑧)	"L"	"L"	"H"	"H"

*2 elevator motor (M104) control

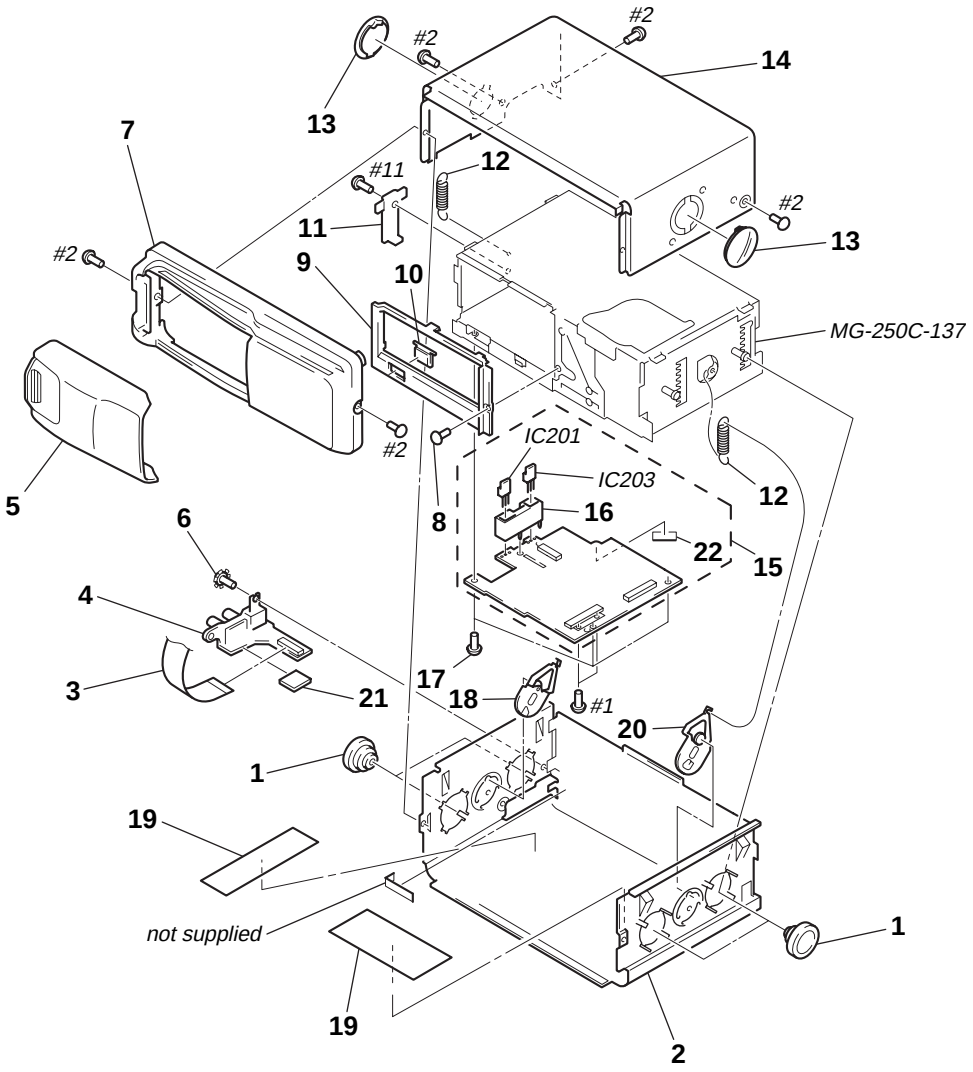
Mode / Terminal	STOP	ELEVATOR UP	ELEVATOR DOWN	BRAKE
PWM (pin ㊽)	"H"	"L"	"H"	"L"
ELV.R (pin ⑪)	"H"	"H"	"L"	"L"

SECTION 8
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

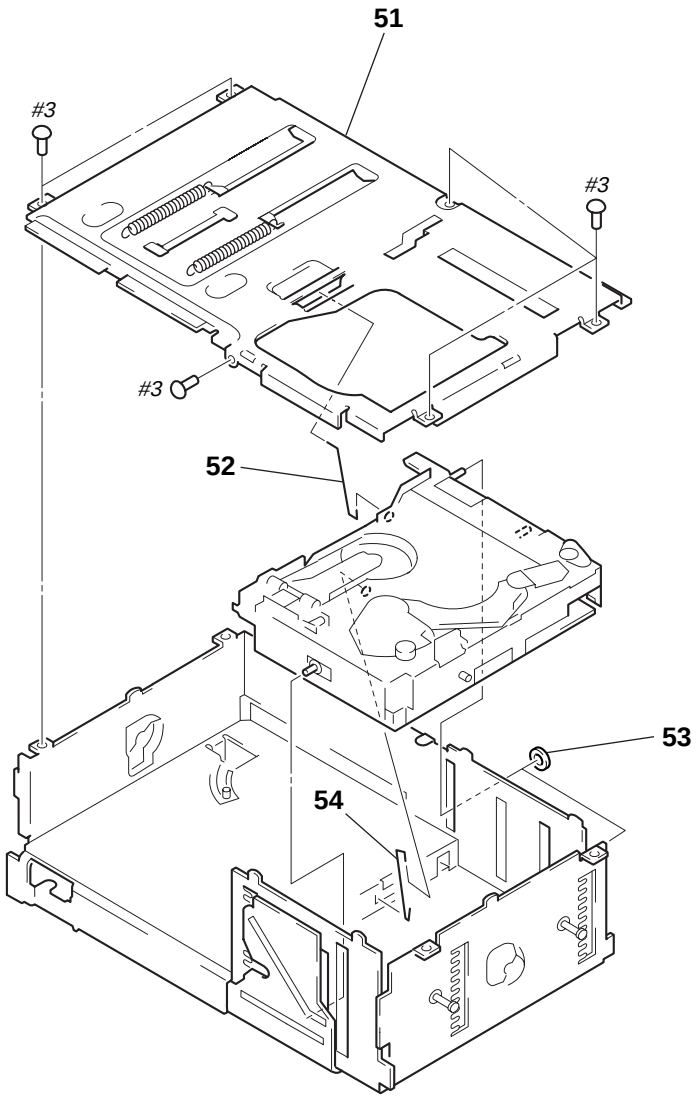
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) COVER SECTION



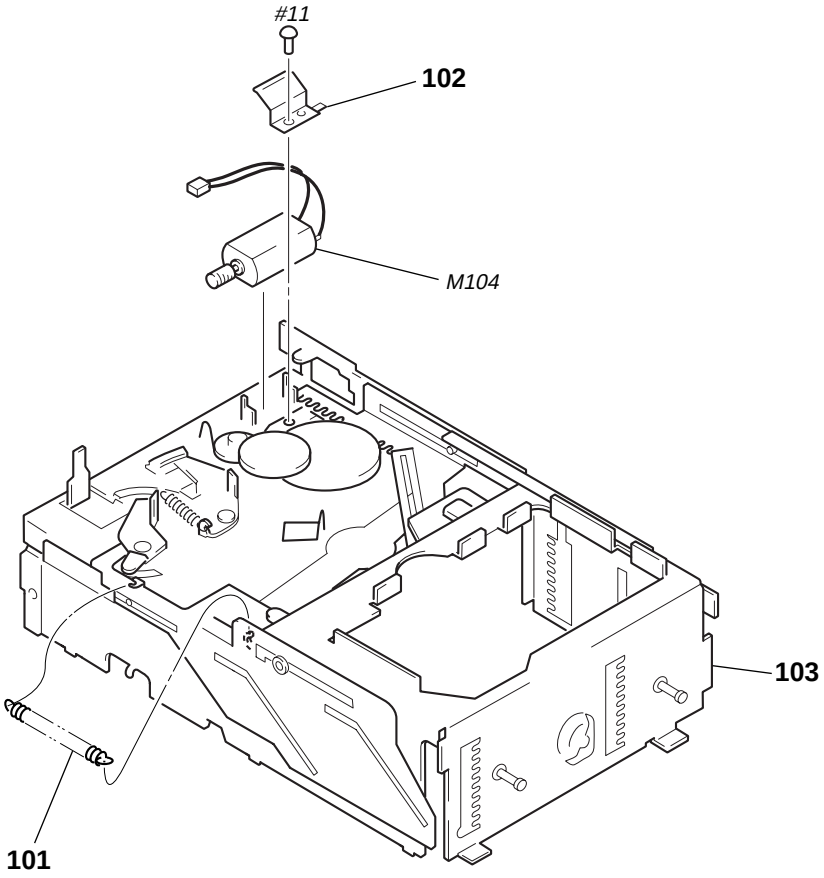
Ref. No.	Part No.	Description	Remark
1	3-010-104-01	DAMPER (250)	
* 2	3-010-097-41	COVER (LOWER)	
3	1-664-628-11	JACK FLEXIBLE BOARD	
* 4	1-664-631-15	JACK BOARD	
5	X-3375-359-2	DOOR (T) ASSY	
6	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT	
7	3-022-002-01	PANEL (T), FRONT	
8	3-012-388-01	SCREW (M2X3)	
9	3-022-006-01	ESCUTCHEON (T)	
10	3-022-007-01	BUTTON (EJT) (⏏)	
* 11	3-022-012-01	HEAT SINK (T)	
12	3-010-103-01	SPRING (FL), TENSION	
13	3-010-101-11	LEVER (FLT)	
* 14	3-010-096-41	COVER (UPPER)	
* 15	A-3317-257-A	MAIN BOARD, COMPLETE	
* 16	3-022-694-01	HOLDER (TR3)	
17	3-935-636-11	SCREW (FP)	
18	X-3375-357-1	ARM (FLT) ASSY	
19	3-013-658-01	SHEET (FJT), PROTECTION	
20	X-3375-360-1	ARM (FRT) ASSY	
21	3-350-124-01	CUSHION (EJECT)	
* 22	3-016-116-01	TAPE (D), MOUNT	
IC201	8-759-054-12	IC PQ09RA1	
IC203	8-759-324-40	IC KIA7805PI	

(2) MECHANISM DECK SECTION-1 (MG-250C-137)



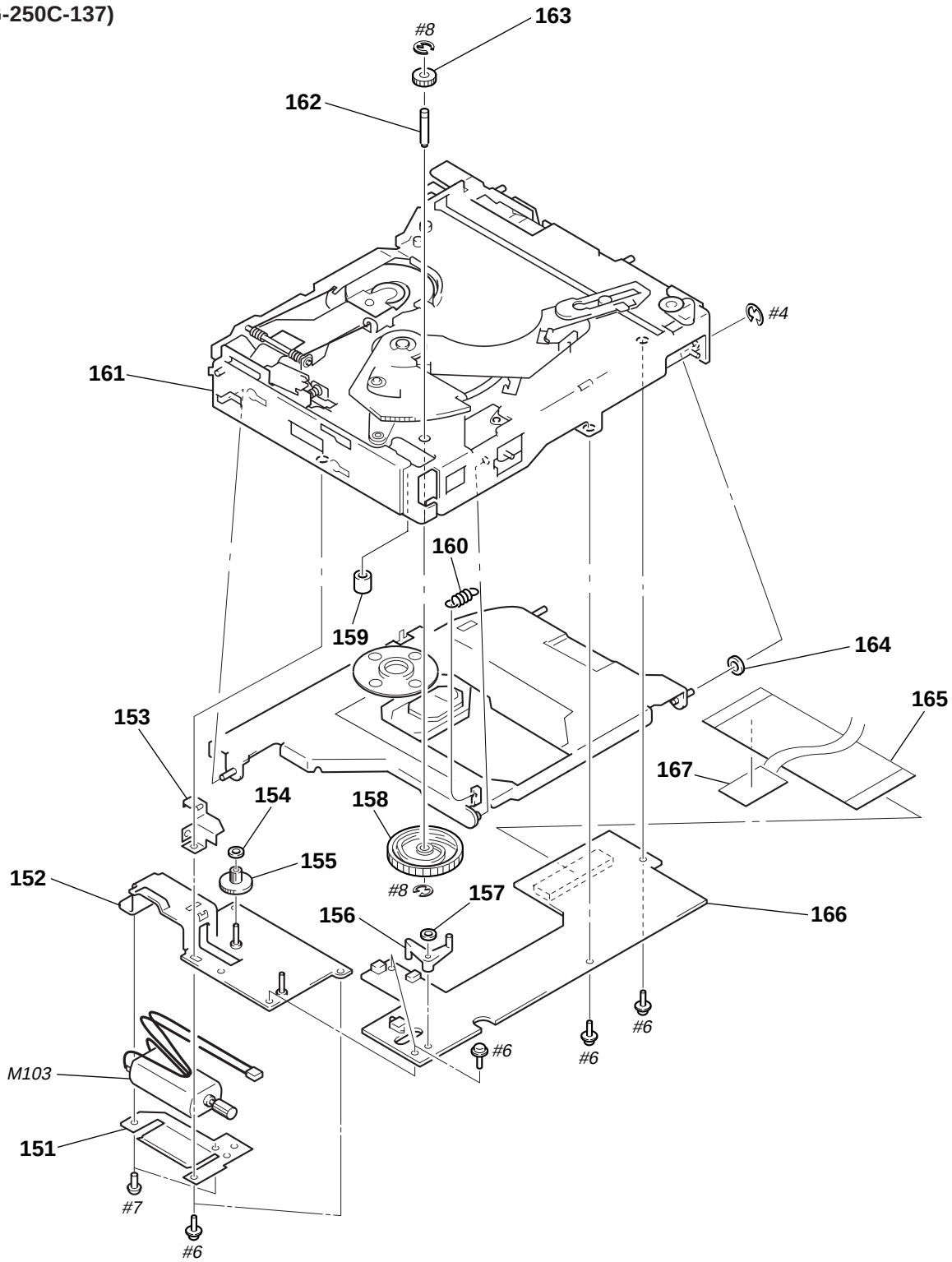
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3375-497-1	CHASSIS (U) SUB ASSY		53	4-965-759-01	WASHER, POLYETHYLENE	
52	3-024-161-01	SPRING (SUT)		54	3-011-997-01	SPRING (STOPPER. LOWER)	

(3) MECHANISM DECK SECTION-2 (MG-250C-137)



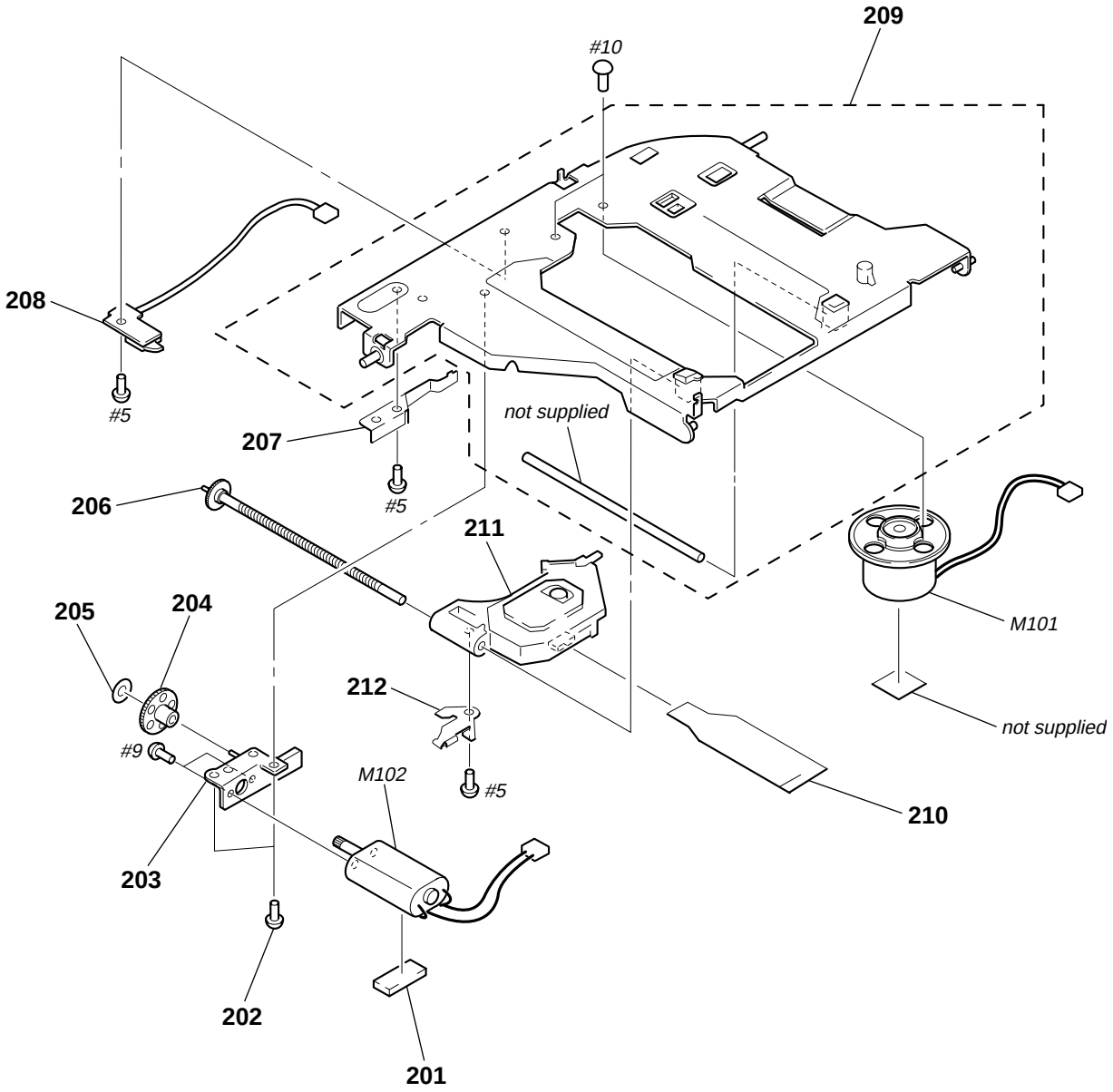
Ref. No.	Part No.	Description	Remark
101	3-024-170-01	SPRING (SB), TENSION	
* 102	3-024-172-01	BRACKET (EVM)	
103	X-3375-498-1	CHASSIS (D) SUB ASSY	
M104	A-3301-123-A	ELJ MOTOR ASSY (ELEVATOR)	

(4) MECHANISM DECK SECTION-3 (MG-250C-137)



Ref. No.	Part No.	Description	Remark
* 151	3-024-150-01	RETAINER (CHM)	
* 152	X-3375-445-1	BRACKET (CHM) ASSY	
153	3-010-270-01	COVER (CHM)	
154	3-321-813-01	WASHER, COTTER POLYETHYLENE	
155	3-017-139-01	GEAR (WORM LOAD A)	
156	3-010-255-01	ARM (LSW)	
157	3-573-936-00	STOPPER, REEL	
158	X-3373-552-1	GEAR (LOAD 1) ASSY	
159	3-010-252-01	ROLLER (CRE)	
160	3-010-268-01	SPRING (DH), TENSION	
* 161	A-3290-194-D	CHASSIS (EVY) (MAIN) ASSY	
162	3-010-254-01	SHAFT (ROTARY PREVENTION C)	
163	3-010-253-01	GEAR (LOMINI)	
164	3-701-438-11	WASHER, 2.5	
165	1-664-627-11	MAIN FLEXIBLE BOARD	
* 166	A-3313-586-A	RF BOARD, COMPLETE	
167	3-911-215-02	SHEET (LEAD RETAINER)	
M103	A-3291-953-A	MOTOR ASSY, EL (CHUCKING)	

(5) MECHANISM DECK SECTION-4 (MG-250C-137)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
201	3-911-215-02	SHEET (LEAD RETAINER)	
202	3-920-362-01	SCREW (ESCUTCHEON)	
203	X-3373-229-1	BASE (SLED) ASSY	
204	3-010-258-01	GEAR (SLED MID)	
205	3-573-936-00	STOPPER, REEL	
206	A-3291-958-A	SHAFT (SLED) ASSY	
207	3-010-263-01	DETENT (SHAFT THRUST)	
* 208	1-664-104-11	SW BOARD	
* 209	A-3301-077-A	BASE (OPT) (J) ASSY	
210	1-664-626-11	OP FLEXIBLE BOARD	
⚠211	8-820-010-05	OPTICAL PICK-UP KSS-521A/J2RP	
212	3-010-262-01	DETENT (SLED)	
M101	A-3291-956-A	MOTOR SUB ASSY, SPINDLE	
M102	A-3291-955-A	MOTOR SUB ASSY, SLED	

SECTION 9
ELECTRICAL PARTS LIST

JACK **MAIN**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-664-631-15	JACK BOARD			
		**********			
		< CAPACITOR >			
C901	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C902	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C903	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
CN901	1-779-077-41	PLUG, CONNECTOR (SONY BUS, AUDIO OUT)			
CNJ901	1-778-775-21	CONNECTOR, FPC 13P			
		< FERRITE BEAD >			
FB901	1-500-445-21	FERRITE	0uH		
FB902	1-500-445-21	FERRITE	0uH		
FB903	1-500-445-21	FERRITE	0uH		
		< IC LINK >			
IC901	1-532-686-21	LINK, IC			
**********					
*	A-3317-257-A	MAIN BOARD, COMPLETE			
		**********			
*	3-022-694-01	HOLDER (TR3)			
*	3-016-116-01	TAPE (D), MOUNT			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C103	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C104	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C105	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C106	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C107	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-126-513-11	ELECT	47uF	20%	6.3V
C110	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C111	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C120	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C121	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C122	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C123	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C124	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C125	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-124-589-11	ELECT	47uF	20%	16V
C202	1-126-513-11	ELECT	47uF	20%	6.3V
C203	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C204	1-115-466-11	ELECT	1000uF	20%	16V
C205	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C206	1-124-589-11	ELECT	47uF	20%	16V
C207	1-124-589-11	ELECT	47uF	20%	16V
C208	1-164-346-11	CERAMIC CHIP	1uF		16V
C209	1-124-589-11	ELECT	47uF	20%	16V
C210	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C211	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C212	1-164-346-11	CERAMIC CHIP	1uF		16V
C213	1-164-346-11	CERAMIC CHIP	1uF		16V
C214	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C302	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C303	1-126-513-11	ELECT	47uF	20%	6.3V
C304	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C305	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C306	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C308	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C401	1-124-589-11	ELECT	47uF	20%	16V
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C403	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C404	1-126-513-11	ELECT	47uF	20%	6.3V
C405	1-126-513-11	ELECT	47uF	20%	6.3V
C406	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C407	1-126-157-11	ELECT	10uF	20%	16V
C408	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C409	1-126-513-11	ELECT	47uF	20%	6.3V
C410	1-126-157-11	ELECT	10uF	20%	16V
C411	1-126-157-11	ELECT	10uF	20%	16V
C412	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C413	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C414	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C415	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C501	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C502	1-163-029-11	CERAMIC CHIP	0.0047uF		50V
C503	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C801	1-104-823-11	TANTAL. CHIP	47uF	20%	16V
C802	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C803	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C804	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C805	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

MAIN

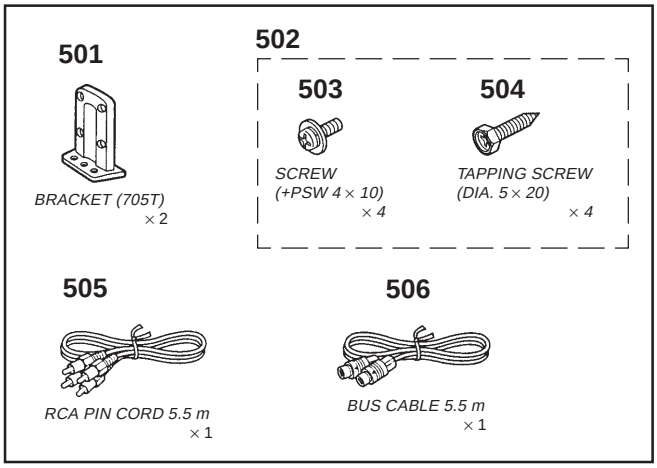
Ref. No.	Part No.	Description			Remark
C806	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C807	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C808	1-162-286-21	CERAMIC	220PF F	10%	50V
C809	1-162-302-11	CERAMIC	0.0022uF	30%	16V
		< CONNECTOR >			
CNJ101	1-770-351-11	CONNECTOR, FPC 26P			
CNJ201	1-770-350-21	CONNECTOR, FPC 13P			
CNP301	1-580-055-21	PIN, CONNECTOR 2P			
		< DIODE >			
D201	8-719-210-33	DIODE EC10DS2			
D202	8-719-210-33	DIODE EC10DS2			
D203	8-719-801-78	DIODE 1SS184			
D204	8-719-422-64	DIODE MA8062-M			
D205	8-719-038-48	DIODE 1SS319 (TE85R)			
D206	8-719-801-78	DIODE 1SS184			
D207	8-719-422-62	DIODE MA8062-L-TX			
D301	8-719-801-78	DIODE 1SS184			
D311	8-719-975-40	DIODE RB411D			
D501	8-719-422-62	DIODE MA8062-L-TX			
D502	8-719-975-40	DIODE RB411D			
D503	8-719-975-40	DIODE RB411D			
D504	8-719-422-62	DIODE MA8062-L-TX			
D505	8-719-975-40	DIODE RB411D			
		< FERRITE BEAD >			
FB101	1-500-445-21	FERRITE	0uH		
FB102	1-500-445-21	FERRITE	0uH		
FB103	1-500-445-21	FERRITE	0uH		
FB111	1-216-295-00	SHORT	0		
FB112	1-216-295-00	SHORT	0		
FB401	1-500-445-21	FERRITE	0uH		
FB411	1-216-295-00	SHORT	0		
FB412	1-216-295-00	SHORT	0		
FB413	1-216-295-00	SHORT	0		
FB414	1-216-295-00	SHORT	0		
		< IC >			
IC101	8-752-384-15	IC CXD2530Q			
IC102	8-759-537-11	IC SM5852FS-E2			
IC201	8-759-054-12	IC PQ09RA1			
IC202	8-759-443-41	IC RH5VL40AA-T1C			
IC203	8-759-324-40	IC KIA7805PI			
IC204	8-759-444-86	IC BA8272F-E2			
IC301	8-759-040-83	IC BA6287F			
IC302	8-752-898-75	IC CXP84124-078Q			
IC401	8-759-494-78	IC TC9464FN-EL			
		< TRANSISTOR >			
Q201	8-729-016-83	TRANSISTOR 2SB1446			
Q202	8-729-901-00	TRANSISTOR DTC124EK			
Q203	8-729-230-49	TRANSISTOR 2SC2712-YG			
Q204	8-729-027-31	TRANSISTOR DTA124EKA-T146			
Q205	8-729-822-05	TRANSISTOR 2SD1622-ST-TD			
Q301	8-729-020-67	TRANSISTOR XN1A312-TX			
Q401	8-729-901-00	TRANSISTOR DTC124EK			
Q402	8-729-027-23	TRANSISTOR DTA114EKA-T146			
Q403	8-729-015-39	TRANSISTOR DTC323TK			
Q404	8-729-015-39	TRANSISTOR DTC323TK			
		< RESISTOR >			
R101	1-216-119-00	METAL CHIP	820K	5%	1/10W
R102	1-216-105-00	RES, CHIP	220K	5%	1/10W
R103	1-216-073-00	METAL CHIP	10K	5%	1/10W
R104	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R105	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R106	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-295-00	SHORT	0		
R201	1-216-073-00	METAL CHIP	10K	5%	1/10W
R202	1-216-049-11	RES, CHIP	1K	5%	1/10W
R203	1-216-089-00	RES, CHIP	47K	5%	1/10W
R204	1-216-097-00	RES, CHIP	100K	5%	1/10W
R205	1-216-077-00	METAL CHIP	15K	5%	1/10W
R206	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R207	1-216-089-00	RES, CHIP	47K	5%	1/10W
R208	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R301	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R302	1-216-089-00	RES, CHIP	47K	5%	1/10W
R303	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R304	1-216-089-00	RES, CHIP	47K	5%	1/10W
R305	1-216-089-00	RES, CHIP	47K	5%	1/10W
R306	1-216-089-00	RES, CHIP	47K	5%	1/10W
R307	1-216-089-00	RES, CHIP	47K	5%	1/10W
R308	1-216-089-00	RES, CHIP	47K	5%	1/10W
R310	1-216-089-00	RES, CHIP	47K	5%	1/10W
R311	1-216-089-00	RES, CHIP	47K	5%	1/10W
R312	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R313	1-216-097-00	RES, CHIP	100K	5%	1/10W
R318	1-216-033-00	METAL CHIP	220	5%	1/10W
R319	1-216-089-00	RES, CHIP	47K	5%	1/10W
R320	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R321	1-216-073-00	METAL CHIP	10K	5%	1/10W
R331	1-216-097-00	RES, CHIP	100K	5%	1/10W
R332	1-216-089-00	RES, CHIP	47K	5%	1/10W
R333	1-216-295-00	SHORT	0		
R334	1-216-295-00	SHORT	0		
R335	1-216-295-00	SHORT	0		
R343	1-216-073-00	METAL CHIP	10K	5%	1/10W
R401	1-216-033-00	METAL CHIP	220	5%	1/10W
R405	1-216-033-00	METAL CHIP	220	5%	1/10W
R406	1-216-033-00	METAL CHIP	220	5%	1/10W
R407	1-216-097-00	RES, CHIP	100K	5%	1/10W
R408	1-216-097-00	RES, CHIP	100K	5%	1/10W
R411	1-216-029-00	METAL CHIP	150	5%	1/10W
R501	1-216-089-00	RES, CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV301	1-223-834-11	RES, ADJ, CARBON 47K			
RV302	1-225-412-11	RES, VAR, SLIDE 10K (ELEVATOR HEIGHT SENSOR)			
		< SWITCH >			
SW301	1-762-108-31	SWITCH, PUSH (1 KEY) (MAGAZINE EJECT END DETECT)			
SW302	1-762-108-31	SWITCH, PUSH (1 KEY) (MAGAZINE IN/OUT DETECT)			

Ref. No.	Part No.	Description			Remark
SW303	1-571-532-21	SWITCH, TACTIL (⏏)			
		< VIBRATOR >			
X301	1-767-261-21	VIBRATOR, CERAMIC (8MHz)			
X401	1-767-511-11	VIBRATOR, CERAMIC (16.930MHz)			
**********					
*	A-3313-586-A	RF BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C12	1-113-500-11	TANTAL. CHIP	100uF	20%	10V
C13	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C14	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C15	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C16	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C17	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C18	1-111-253-11	TANTAL. CHIP	100uF	20%	6.3V
C19	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C21	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C22	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C23	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C24	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C25	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C26	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C27	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C28	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C29	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C30	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C31	1-113-987-11	TANTAL. CHIP	4.7uF	20%	25V
C32	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C33	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C34	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C35	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V
C36	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C37	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C38	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C39	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C40	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C41	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C42	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C43	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C52	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C53	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C54	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C55	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C56	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C57	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C58	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C59	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C60	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
		< CONNECTOR >			
CNJ11	1-778-776-21	CONNECTOR, FPC 17P			
CNJ12	1-778-777-21	CONNECTOR, FPC 26P			
CNP11	1-580-055-21	PIN, CONNECTOR 2P			
CNP51	1-580-055-21	PIN, CONNECTOR 2P			
CNP52	1-580-055-21	PIN, CONNECTOR 2P			
CNP53	1-580-055-21	PIN, CONNECTOR 2P			
		< IC >			
IC11	8-752-082-14	IC CXA1992BR			
IC51	8-759-071-79	IC BA6297AFP			
IC52	8-759-040-83	IC BA6287F			
		< TRANSISTOR >			
Q11	8-729-141-48	TRANSISTOR 2SB624-BV345			
		< RESISTOR >			
R11	1-216-844-11	METAL CHIP	82K	5%	1/16W
R12	1-216-839-11	METAL CHIP	33K	5%	1/16W
R13	1-216-839-11	METAL CHIP	33K	5%	1/16W
R14	1-216-844-11	METAL CHIP	82K	5%	1/16W
R16	1-216-857-11	METAL CHIP	1M	5%	1/16W
R17	1-216-837-11	METAL CHIP	22K	5%	1/16W
R18	1-216-841-11	METAL CHIP	47K	5%	1/16W
R22	1-216-857-11	METAL CHIP	1M	5%	1/16W
R25	1-216-851-11	METAL CHIP	330K	5%	1/16W
R26	1-216-845-11	METAL CHIP	100K	5%	1/16W
R27	1-216-295-00	SHORT	0		
R28	1-216-295-00	SHORT	0		
R30	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R31	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R32	1-216-837-11	METAL CHIP	22K	5%	1/16W
R33	1-216-158-00	RES, CHIP	22	5%	1/8W
R34	1-216-855-11	METAL CHIP	680K	5%	1/16W
R35	1-216-835-11	METAL CHIP	15K	5%	1/16W
R36	1-216-836-11	METAL CHIP	18K	5%	1/16W
R37	1-216-851-11	METAL CHIP	330K	5%	1/16W
R38	1-216-837-11	METAL CHIP	22K	5%	1/16W
R39	1-216-847-11	METAL CHIP	150K	5%	1/16W
R40	1-218-273-11	RES, CHIP	510K	5%	1/16W
R41	1-218-296-11	RES, CHIP	75K	5%	1/16W
R42	1-202-930-11	RES, CHIP	750K	5%	1/16W
R43	1-216-849-11	METAL CHIP	220K	5%	1/16W
R44	1-216-846-11	METAL CHIP	120K	5%	1/16W
R45	1-216-837-11	METAL CHIP	22K	5%	1/16W
R46	1-216-847-11	METAL CHIP	150K	5%	1/16W
R47	1-216-834-11	METAL CHIP	12K	5%	1/16W
R48	1-216-845-11	METAL CHIP	100K	5%	1/16W
R49	1-216-093-00	METAL CHIP	68K	5%	1/10W
R50	1-216-841-11	METAL CHIP	47K	5%	1/16W
R51	1-216-073-00	METAL CHIP	10K	5%	1/10W
R52	1-216-093-00	METAL CHIP	68K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-073-00	METAL CHIP	10K	5%	1/10W
R55	1-216-073-00	METAL CHIP	10K	5%	1/10W
R56	1-216-093-00	METAL CHIP	68K	5%	1/10W
R57	1-216-081-00	METAL CHIP	22K	5%	1/10W
R58	1-216-093-00	METAL CHIP	68K	5%	1/10W
R59	1-216-073-00	METAL CHIP	10K	5%	1/10W
R60	1-216-073-00	METAL CHIP	10K	5%	1/10W
R61	1-216-073-00	METAL CHIP	10K	5%	1/10W

RF **SW**

Ref. No.	Part No.	Description			Remark
R62	1-216-085-00	METAL CHIP	33K	5%	1/10W
R63	1-216-073-00	METAL CHIP	10K	5%	1/10W
R64	1-216-073-00	METAL CHIP	10K	5%	1/10W
R65	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV14	1-238-091-11	RES, ADJ, CERMET	22K		
		< SWITCH >			
SW11	1-762-946-11	SWITCH, PUSH (1 KEY) (CHUCKING END DETECT)			
SW12	1-762-946-11	SWITCH, PUSH (1 KEY) (SAVE END DETECT)			
*	1-664-104-11	SW BOARD			
		< SWITCH >			
SW1	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)			
		MISCELLANEOUS			
3	1-664-628-11	JACK FLEXIBLE BOARD			
165	1-664-627-11	MAIN FLEXIBLE BOARD			
210	1-664-626-11	OP FLEXIBLE BOARD			
⚠211	8-820-010-05	OPTICAL PICK-UP KSS-521A/J2RP			
M101	A-3291-956-A	MOTOR SUB ASSY, SPINDLE			
M102	A-3291-955-A	MOTOR SUB ASSY, SLED			
M103	A-3291-953-A	MOTOR ASSY, EL (CHUCKING)			
M104	A-3301-123-A	ELJ MOTOR ASSY (ELEVATOR)			
		HARDWARE LIST			
#1	7-627-852-07	SCREW, PRECISION +P 1.7X2.5			
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)			
#3	7-685-781-09	SCREW +PTT 2X4 (S)			
#4	7-624-104-04	STOP RING 2.0, TYPE-E			
#5	7-627-554-07	SCREW, PRECISION +P 2X2.2			
#6	7-628-253-00	SCREW +PS 2X4			
#7	7-627-553-27	SCREW, PRECISION +P 2X2.5			
#8	7-624-102-04	STOP RING 1.5, TYPE-E			
#9	7-627-850-28	SCREW, PRECISION +P 1.4X3			
#10	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE3			
#11	7-685-851-04	SCREW +BVTT 2X4 (S)			
		ACCESSORIES & PACKING MATERIALS			
	3-862-311-31	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE)			
	A-3291-950-D	MAGAZINE (250T) ASSY			

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
501	3-022-693-01	BRACKET (705T)	
* 502	X-3369-824-1	SCREW ASSY	
503	7-682-962-01	SCREW +PSW 4X10	
504	Not supplied		
505	1-590-874-11	CORD, CONNECTION (RCA PIN CORD 5.5m)	
506	1-590-519-81	CORD (WITH CONNECTOR) (BUS CABLE 5.5m)	



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.